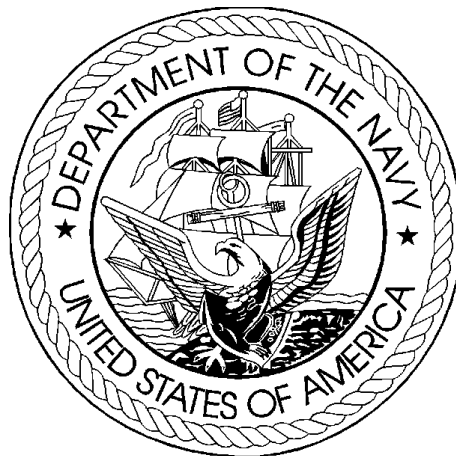


DEPARTMENT OF THE NAVY
FISCAL YEAR (FY) 2001
BUDGET ESTIMATES



JUSTIFICATION OF ESTIMATES
FEBRUARY 2000

AIRCRAFT PROCUREMENT, NAVY
Volume II:
BUDGET ACTIVITY 5

UNCLASSIFIED

DEPARTMENT OF THE NAVY

FY 2001 PROCUREMENT PROGRAM

SUMMARY
(\$ IN MILLIONS)

February 2000

APPROPRIATION: AIRCRAFT PROCUREMENT, NAVY

ACTIVITY -----	FY 1999 -----	FY 2000 -----	FY 2001 -----
01. COMBAT AIRCRAFT	4,201.3	4,661.4	4,840.4
02. AIRLIFT AIRCRAFT	135.3	418.1	295.8
03. TRAINER AIRCRAFT	300.6	388.4	348.1
04. OTHER AIRCRAFT	111.3	76.7	154.8
05. MODIFICATION OF AIRCRAFT	1,735.2	1,821.8	998.4
06. AIRCRAFT SPARES AND REPAIR PARTS	731.3	958.6	941.6
07. AIRCRAFT SUPPORT EQUIPMENT & FACILITIES	333.8	498.1	384.8
TOTAL AIRCRAFT PROCUREMENT, NAVY	7,548.9	8,823.1	7,963.9

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2001 PROCUREMENT PROGRAM

EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY

DATE: February 2000

		MILLIONS OF DOLLARS						
LINE	ITEM NOMENCLATURE	IDENT	FY 1999	FY 2000	FY 2001			
NO		CODE	QUANTITY	COST	QUANTITY	COST	QUANTITY	
----	-----	----	-----	-----	-----	-----	-----	
BUDGET ACTIVITY 01: COMBAT AIRCRAFT								

COMBAT AIRCRAFT								
1	AV-8B (V/STOL)HARRIER (MYP)	A	11	(293.8)	11	(300.4)	10 (282.1) U	
	LESS: ADVANCE PROCUREMENT (PY)			(-17.5)		(-40.7)	(-55.5) U	
				-----		-----	-----	
				276.3		259.7	226.6	
2	AV-8B (V/STOL)HARRIER (MYP)							
	ADVANCE PROCUREMENT (CY)			55.5		40.8	U	
	(FY 1999 FOR FY 2000) (MEMO)			(40.7)				
	(FY 1999 FOR FY 2001) (MEMO)			(14.7)				
	(FY 2000 FOR FY 2001) (MEMO)				(40.8)			
3	F/A-18E/F (FIGHTER) HORNET (MYP)	B	30	(2,795.4)	36	(2,784.1)	42 (2,924.0) U	
	LESS: ADVANCE PROCUREMENT (PY)			(-87.4)		(-108.4)	(-105.4) U	
				-----		-----	-----	
				2,708.0		2,675.7	2,818.6	
4	F/A-18E/F (FIGHTER) HORNET (MYP)							
	ADVANCE PROCUREMENT (CY)			108.4		162.1	101.1 U	
	(FY 1999 FOR FY 2000) (MEMO)			(108.4)				
	(FY 2000 FOR FY 2001) (MEMO)				(105.4)			
	(FY 2000 FOR FY 2002) (MEMO)				(18.9)			
	(FY 2000 FOR FY 2003) (MEMO)				(18.9)			
	(FY 2000 FOR FY 2004) (MEMO)				(18.9)			
	(FY 2001 FOR FY 2002) (MEMO)					(94.5)		
	(FY 2001 FOR FY 2003) (MEMO)					(3.3)		
	(FY 2001 FOR FY 2004) (MEMO)					(3.3)		
5	V-22 (MEDIUM LIFT)	B	7	(663.9)	11	(904.8)	16 (1,199.2) U	
	LESS: ADVANCE PROCUREMENT (PY)			(-60.0)		(-53.5)	(-70.6) U	
				-----		-----	-----	
				603.9		851.3	1,128.6	
6	V-22 (MEDIUM LIFT)							
	ADVANCE PROCUREMENT (CY)			53.5		70.6	79.9 U	
	(FY 1999 FOR FY 2000) (MEMO)			(53.5)				
	(FY 2000 FOR FY 2001) (MEMO)				(70.6)			
	(FY 2001 FOR FY 2002) (MEMO)					(79.9)		
7	AH-1W (HELICOPTER) SEA COBRA	A				1.9	2.5 U	

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2001 PROCUREMENT PROGRAM

EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY

DATE: February 2000

MILLIONS OF DOLLARS									
LINE NO	ITEM NOMENCLATURE	IDENT CODE	FY 1999 QUANTITY	FY 1999 COST	FY 2000 QUANTITY	FY 2000 COST	FY 2001 QUANTITY	FY 2001 COST	S E C
8	SH-60R	A			7	216.7	4	162.3	U
9	E-2C (EARLY WARNING) HAWKEYE (MYP)	A	3	(232.3)	3	(247.4)	5	(364.9)	U
	LESS: ADVANCE PROCUREMENT (PY)			(-18.8)		(-37.3)		(-112.1)	U
				213.4		210.1		252.8	
10	E-2C (EARLY WARNING) HAWKEYE (MYP)								
	ADVANCE PROCUREMENT (CY)			182.4		172.5		68.1	U
	(FY 1999 FOR FY 2000) (MEMO)			(37.3)					
	(FY 1999 FOR FY 2001) (MEMO)			(48.2)					
	(FY 1999 FOR FY 2002) (MEMO)			(48.2)					
	(FY 1999 FOR FY 2003) (MEMO)			(48.7)					
	(FY 2000 FOR FY 2001) (MEMO)				(63.9)				
	(FY 2000 FOR FY 2002) (MEMO)				(54.3)				
	(FY 2000 FOR FY 2003) (MEMO)				(54.3)				
	(FY 2001 FOR FY 2002) (MEMO)						(39.9)		
	(FY 2001 FOR FY 2003) (MEMO)						(28.2)		
				-----		-----		-----	
	TOTAL COMBAT AIRCRAFT			4,201.3		4,661.4		4,840.4	
BUDGET ACTIVITY 02: AIRLIFT AIRCRAFT									

AIRLIFT AIRCRAFT									
11	CH-60S (MYP)	A	5	(109.4)	17	(310.0)	15	(238.5)	U
	LESS: ADVANCE PROCUREMENT (PY)					(-25.9)		(-73.4)	U
				109.4		284.1		165.1	
12	CH-60S (MYP)								
	ADVANCE PROCUREMENT (CY)			25.9		73.4		80.4	U
	(FY 1999 FOR FY 2000) (MEMO)			(25.9)					
	(FY 2000 FOR FY 2001) (MEMO)				(73.4)				
	(FY 2001 FOR FY 2002) (MEMO)						(80.4)		
13	UC-35	B			2	11.9			U
14	C-40A	A			1	48.7			U
15	VP-3 REPLACEMENT AIRCRAFT	A					1	50.3	U
				-----		-----		-----	
	TOTAL AIRLIFT AIRCRAFT			135.3		418.1		295.8	

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2001 PROCUREMENT PROGRAM

EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY

DATE: February 2000

MILLIONS OF DOLLARS

LINE NO	ITEM NOMENCLATURE	IDENT CODE	FY 1999 QUANTITY	FY 1999 COST	FY 2000 QUANTITY	FY 2000 COST	FY 2001 QUANTITY	FY 2001 COST	S E C
BUDGET ACTIVITY 03: TRAINER AIRCRAFT									

TRAINER AIRCRAFT									
16	T-45TS (TRAINER) GOSHAWK	A	15	(298.7)	15	(331.3)	12	(278.1)	U
	LESS: ADVANCE PROCUREMENT (PY)			(-6.0)		(-7.9)		(-9.5)	U
				-----		-----		-----	
				292.7		323.4		268.6	
17	T-45TS (TRAINER) GOSHAWK								
	ADVANCE PROCUREMENT (CY)			7.9		9.5		5.1	U
	(FY 1999 FOR FY 2000) (MEMO)			(7.9)					
	(FY 2000 FOR FY 2001) (MEMO)					(9.5)			
	(FY 2001 FOR FY 2002) (MEMO)							(5.1)	
18	JPATS	B			12	55.5	21	74.4	U
				-----		-----		-----	
TOTAL TRAINER AIRCRAFT				300.6		388.4		348.1	
BUDGET ACTIVITY 04: OTHER AIRCRAFT									

OTHER AIRCRAFT									
19	KC-130J	B	2	111.3	1	76.7	2	154.8	U
				-----		-----		-----	
TOTAL OTHER AIRCRAFT				111.3		76.7		154.8	
BUDGET ACTIVITY 05: MODIFICATION OF AIRCRAFT									

MODIFICATION OF AIRCRAFT									
20	EA-6 SERIES	A		208.9		264.5		203.1	U
21	AV-8 SERIES	A		85.7		54.9		40.6	U
22	F-14 SERIES	A		209.4		82.8		30.5	U
23	ADVERSARY	A		*				6.9	U
24	F-18 SERIES	A		171.4		319.7		212.6	U
25	H-46 SERIES	A		31.0		17.8		16.6	U

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2001 PROCUREMENT PROGRAM

EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY

DATE: February 2000

MILLIONS OF DOLLARS										S E C
LINE NO	ITEM NOMENCLATURE	IDENT CODE	FY 1999 QUANTITY	FY 1999 COST	FY 2000 QUANTITY	FY 2000 COST	FY 2001 QUANTITY	FY 2001 COST		
26	AH-1W SERIES	A		27.6		18.6		9.8	U	
27	H-53 SERIES	A		34.5		29.2		19.9	U	
28	SH-60 SERIES	A		136.6		57.5		21.1	U	
29	H-1 SERIES	A		25.8		15.3		2.6	U	
30	H-3 SERIES	A		*		*		.1	U	
31	EP-3 SERIES	A		7.2		61.3		25.8	U	
32	P-3 SERIES	A		330.1		388.5		60.7	U	
33	S-3 SERIES	A		53.5		81.1		79.1	U	
34	E-2 SERIES	A		80.9		75.9		18.5	U	
35	TRAINER A/C SERIES	A		7.3		8.9		19.4	U	
36	C-2A	A		21.6		25.4		2.6	U	
37	C-130 SERIES	A		5.3		15.2		7.9	U	
38	FEWSG	A		.6		.6		.6	U	
39	CARGO/TRANSPORT A/C SERIES	A		25.3		16.3		7.9	U	
40	E-6 SERIES	A		63.8		84.7		60.7	U	
41	EXECUTIVE HELICOPTERS SERIES	A		26.5		12.7		7.6	U	
42	SPECIAL PROJECT AIRCRAFT	A		22.2		30.6		4.1	U	
43	T-45 SERIES	A		8.4		9.6		9.1	U	
44	POWER PLANT CHANGES	A		17.2		15.5		17.1	U	
45	COMMON ECM EQUIPMENT	A		34.6		54.3		41.9	U	
46	COMMON AVIONICS CHANGES	A		99.8		81.1		71.6	U	
TOTAL MODIFICATION OF AIRCRAFT				1,735.2		1,821.8		998.4		

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2001 PROCUREMENT PROGRAM

EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY

DATE: February 2000

MILLIONS OF DOLLARS

LINE NO	ITEM NOMENCLATURE	IDENT CODE	FY 1999 QUANTITY COST	FY 2000 QUANTITY COST	FY 2001 QUANTITY COST	S E C
BUDGET ACTIVITY 06: AIRCRAFT SPARES AND REPAIR PARTS						

AIRCRAFT SPARES AND REPAIR PARTS						
47	SPARES AND REPAIR PARTS	A	731.3	958.6	941.6	U
			-----	-----	-----	
TOTAL AIRCRAFT SPARES AND REPAIR PARTS			731.3	958.6	941.6	
BUDGET ACTIVITY 07: AIRCRAFT SUPPORT EQUIPMENT & FACILITIES						

AIRCRAFT SUPPORT EQUIPMENT AND FACILITIES						
48	COMMON GROUND EQUIPMENT	A	279.2	378.5	312.4	U
49	AIRCRAFT INDUSTRIAL FACILITIES	A	11.8	12.7	8.6	U
50	WAR CONSUMABLES	A	11.1	14.7	13.0	U
51	OTHER PRODUCTION CHARGES	A	9.4	56.8	37.1	U
52	SPECIAL SUPPORT EQUIPMENT	A	14.2	34.0	12.2	U
53	FIRST DESTINATION TRANSPORTATION	A	1.7	1.5	1.5	U
54	CANCELLED ACCOUNT ADJUSTMENTS (M)	A	6.4			U
			-----	-----	-----	
TOTAL AIRCRAFT SUPPORT EQUIPMENT & FACILITIES			333.8	498.1	384.8	
			-----	-----	-----	
TOTAL AIRCRAFT PROCUREMENT, NAVY			7,548.9	8,823.1	7,963.9	

Aircraft Procurement, Navy
Program and Financing (in Thousands of dollars)

		Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
Identification code	17-1506-0-1-051	1999 actual	2000 est.	2001 est.	1999 actual	2000 est.	2001 est.
Program by activities:							
Direct program:							
00.0101	Combat aircraft	4,196,293*	4,661,357*	4,840,368	3,996,628	4,733,700	5,144,732
00.0201	Airlift aircraft	134,398*	426,000*	295,758	113,984	352,715	301,822
00.0301	Trainer aircraft	299,831*	388,423*	348,093	314,404	314,403	330,858
00.0401	Other aircraft	111,341*	76,732*	154,818	147,279	62,662	133,400
00.0501	Modification of aircraft	1,731,779*	1,803,678*	998,446	1,709,494	1,715,301	1,055,309
00.0601	Aircraft spares and repair parts	730,332*	965,304*	941,553	720,397	763,265	883,440
00.0701	Aircraft support equipment and facilities	344,888*	501,609*	384,822	343,455	417,770	375,788
00.9101	Total direct program	7,548,862	8,823,103	7,963,858	7,345,641	8,359,816	8,225,349
01.0101	Reimbursable program		7,100	7,100		7,100	7,100
10.0001	Total	7,548,862	8,830,203	7,970,958	7,345,641	8,366,916	8,232,449
Financing:							
Offsetting collections from:							
11.0001	Federal funds(-)		-7,100	-7,100	-575	-7,100	-7,100
17.0001	Recovery of prior year obligations				-4,658		
Unobligated balance available, start of year:							
21.4002	For completion of prior year budget plans				-757,294	-948,507	-1,411,794
21.4003	Available to finance new budget plans		-85,500			-85,500	
21.4009	Reprogramming from/to prior year budget plan	-17,241					
22.2001	Unobligated balance transferred from other ac	-2,520	-87,700		-2,520	-87,700	
Unobligated balance available, end of year:							
24.4002	For completion of prior year budget plans				948,507	1,411,794	1,150,303
24.4003	Available to finance subsequent year budget	85,500			85,500		
25.0001	Unobligated balance expiring	17,241			17,241		
39.0001	Budget authority	7,631,842	8,649,903	7,963,858	7,631,842	8,649,903	7,963,858
Budget authority:							
40.0001	Appropriation	7,519,709	8,662,655	7,963,858	7,519,709	8,662,655	7,963,858
40.3601	Unobligated Balance Rescinded		-85,500			-85,500	
40.7601	Reduction pursuant to P.L. 106-113(-), Titl		-44,352			-44,352	
41.0001	Transferred to other accounts (-)	-52,552	-9,000		-52,552	-9,000	
42.0001	Transferred from other accounts	164,685	126,100		164,685	126,100	
43.0001	Appropriation (adjusted)	7,631,842	8,649,903	7,963,858	7,631,842	8,649,903	7,963,858

Note: (*) For FY 1999 and FY 2000, differences between authorized amounts cited for budget activities in the budget and the Program and Financing exhibit are the result of reprogrammings not reflected in the official 30 September 1999 accounting reports.

Aircraft Procurement, Navy
Program and Financing (in Thousands of dollars)

		Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
Identification code	17-1506-0-1-051	1999 actual	2000 est.	2001 est.	1999 actual	2000 est.	2001 est.
Relation of obligations to outlays:							
71.0001	Obligations incurred				7,345,066	8,359,816	8,225,349
72.1001	From Federal sources: Receivables and unpaid, unfilled orders, SOY				1,808	227	227
72.4001	Obligated balance, start of year				9,066,831	10,375,394	11,525,267
74.1001	From Federal sources: Receivables and unpaid, unfilled orders, EOY				-227	-227	-227
74.4001	Obligated balance, end of year				-10,375,394	-11,525,267	-12,271,688
77.0001	Adjustments in expired accounts (net)				-9,333		
78.0001	Adjustments in unexpired accounts				-4,658		
90.0001	Outlays (net)				6,024,093	7,209,943	7,478,928

Aircraft Procurement, Navy
Object Classification (in Thousands of dollars)

Identification code	17-1506-0-1-051	1999 actual	2000 est.	2001 est.

	Direct obligations:			
125.101	Advisory and assistance services	95,185	107,389	114,104
	Purchases goods/services from Government accounts			
125.303	Purchases from revolving funds	569,304	473,221	408,831
126.001	Supplies and materials	170	12,014	13,096
131.001	Equipment	6,680,982	7,767,192	7,689,318
		-----	-----	-----
199.001	Total Direct obligations	7,345,641	8,359,816	8,225,349
	Reimbursable obligations:			
231.001	Equipment		7,100	7,100
		-----	-----	-----
299.001	Total Reimbursable obligations		7,100	7,100
		-----	-----	-----
999.901	Total obligations	7,345,641	8,366,916	8,232,449

**COMPARISON OF FY 1999 PROGRAM REQUIREMENTS AS REFLECTED IN THE FY 2000/2001 PRESIDENT'S BUDGET
WITH FY 1999 PROGRAM REQUIREMENTS SHOWN IN THE FY 2001 PRESIDENT'S BUDGET**

(In Thousands of Dollars)

	Total Program Requirements per <u>FY 2000/2001 Budget</u>	Total Program Requirements per <u>FY 2001 Budget</u>	Increase (+) or Decrease (-)
Combat Aircraft.....	\$4,263,383	\$4,201,337	-\$62,046
Airlift Aircraft.....	\$137,226	\$135,331	-\$1,895
Trainer Aircraft.....	\$300,158	\$300,628	\$470
Other Aircraft.....	\$112,072	\$111,341	-\$731
Modification of Aircraft.....	\$1,594,404	\$1,735,158	\$140,754
Aircraft Spares and Repair Parts.....	\$734,016	\$731,287	-\$2,729
Aircraft Support Equipment and Facilities.....	\$365,098	\$333,780	-\$31,318
Reimbursable Program.....	<u>\$7,100</u>	<u>\$0</u>	<u>-\$7,100</u>
TOTAL FISCAL YEAR PROGRAM.....	\$7,513,457	\$7,548,862	\$35,405

EXPLANATION BY BUDGET ACTIVITY (B.A.)

Combat Aircraft (-\$62.046 million):

Changes in this budget activity include a reduction to the F/A-18E/F program due to a delay in Integrated Defense Electronic Countermeasures (IDECM) (-\$39.2M); an Inflation Savings Reduction (-\$25.198M) and multiple below threshold reprogrammings (BTRs) to execute current program requirements (+\$2.352M)

Airlift Aircraft (-\$1.895 million):

Changes in this budget activity are a reduction to CH-60S (-\$1.0M) to fund higher priority Navy requirements and an Inflation Savings Reduction (-\$0.895M).

Trainer Aircraft (+\$0.470 million):

Changes in this budget activity include a BTR from T-45 to Other Production Charges for Government Furnished Equipment Support (-\$0.375M); an Inflation Savings reduction (-\$0.522M) and several BTR actions to execute current program requirements (+\$1.367M).

Other Aircraft (-\$0.731 million):

Changes in this budget activity are due to an Inflation Savings reduction (-\$0.731M).

Modification of Aircraft (+\$140.754 million):

Major changes in this budget activity include Congressional Kosovo supplemental adjustments for EA-6 (+\$115.0M) and P-3 (+\$41.0M); a transfer for Counter Drug Interdiction support (+\$10.645M); an Inflation Savings reduction (-\$10.387M); increases to S-3 Series for the Carrier Aircraft Inertial Navigation System (CAINS II) (+\$6.4M) and SH-60 Series for the Integrated Mechanical Diagnostic System (IMD) (+\$1.0M); reductions to F-14 Series (-\$2.0M), P-3 Series (-\$3.0M), E-2 Series (-\$1.0M) and Common ECM Equipment (-\$2.0M) to fund higher priority Navy requirements and multiple BTR actions to effectively execute program requirements (-\$14.904M).

SPARES (-\$2.729 million):

Changes in this budget activity are a BTR action to fund Overseas Contingency Operations Transfer Fund (OCOTF) (+\$0.560M); several BTR actions to effectively execute current program requirements including Aviation Outfitting Account (AOA) shortfalls, ATARS requirements and Repair of Repairables (ROR) requirements (+\$1.499M) and an Inflation Savings reduction (-\$4.788M).

Aircraft Support Equipment and Facilities (-\$31.318 million):

Major changes in this budget activity include a FY99 Congressional rescission taken against Common Ground Equipment (-\$41.5M); various BTR actions to fund Canceled Account Adjustments (+\$6.328M); a BTR from F-14 Mods to Common Ground Equipment to fund affordable readiness initiatives (+\$3.112M); several BTR actions to fund Other Production Charges GFE support (+\$2.221M); and an Inflation Savings reduction (-\$1.479M).

Reimbursable Program (-\$7.100 million):

Actual reimbursable program collections are less than were anticipated in the budget plan.

**COMPARISON OF FY 1999 FINANCING AS REFLECTED IN THE FY 2000/2001 PRESIDENT'S BUDGET
WITH FY 1999 FINANCING SHOWN IN THE FY 2001 PRESIDENT'S BUDGET**

(In Thousands of Dollars)

	Financing per FY 2000/2001 Budget	Financing per FY 2001 Budget	Increase (+) or Decrease (-)
Program Requirements (Total).....	\$7,513,457	\$7,548,862	\$35,405
Program Requirements (Service account).....	\$7,506,357	\$7,548,862	\$42,505
Program Requirements (Reimbursable).....	\$7,100	\$0	-\$7,100
 <i>Less:</i>			
Anticipated Reimbursements.....	\$7,100	\$0	\$7,100
Transferred from other accounts.....	\$0	\$0	\$0
Unobligated Balance Available.....	\$0	\$0	\$0
 <i>Add:</i>			
Transferred to other accounts.....	\$0	\$0	\$0
Unobligated balance available to finance....	\$0	\$0	\$0
subsequent year budget plans.....	\$0	\$0	\$0
Reprogramming from/to prior year budgets....	\$0	\$0	\$0
Anticipated transfers to other accounts.....	\$0	\$0	\$0
Appropriation.....	\$7,506,357	\$7,548,862	\$42,505

EXPLANATION OF CHANGES IN FINANCING

The change in program financing of \$42,505,000 is due to specific Congressional increases of +\$156,000,000 offset by a FY99 Congressional rescission of -\$41,500,000, an inflation savings reduction of -\$44,000,000 and decreased program account needs of -\$27,995,000 explained previously plus fewer actual orders than anticipated in the reimbursable account in the amount of -\$7,100,000.

A financing change increases the appropriation to the new amount of +\$42,505,000. The only financing adjustment is anticipated reimbursables of +7,100,000.

**COMPARISON OF FY 2000 PROGRAM REQUIREMENTS AS REFLECTED IN THE FY 2000/2001 PRESIDENT'S BUDGET
WITH FY 2000 PROGRAM REQUIREMENTS SHOWN IN THE FY 2001 PRESIDENT'S BUDGET**

(In Thousands of Dollars)

	Total Program Requirements per FY 2000/2001 Budget	Total Program Requirements per FY 2001 Budget	Increase (+) or Decrease (-)
Combat Aircraft.....	\$4,614,610	\$4,661,357	\$46,747
Airlift Aircraft.....	\$331,314	\$418,100	\$86,786
Trainer Aircraft.....	\$379,854	\$388,423	\$8,569
Other Aircraft.....	\$12,257	\$76,732	\$64,475
Modification of Aircraft.....	\$1,504,977	\$1,821,778	\$316,801
Aircraft Spares and Repair Parts.....	\$871,820	\$958,604	\$86,784
Aircraft Support Equipment and Facilities.....	\$513,823	\$498,109	-\$15,714
Reimbursable Program.....	<u>\$7,100</u>	<u>\$7,100</u>	<u>\$0</u>
TOTAL FISCAL YEAR PROGRAM.....	\$8,235,755	\$8,830,203	\$594,448

EXPLANATION BY BUDGET ACTIVITY (B.A.)

Combat Aircraft (+\$46.747 million):

Major changes in this budget activity include the following Congressional actions: procurement of 1 V-22 (+\$60.0M), an increase in AV-8B advanced procurement (+\$10.0M); a Congressional across-the-board reduction (-\$14.253M); and two reductions to the F/A-18E/F as offsets for the Defense Health Program (DHP) (-\$6.483M) and the Defense Security Service (DSS) (-\$2.517M).

Airlift Aircraft (+\$86.786 million):

Major changes in this budget activity include the following Congressional actions: procurement of 4 CH-60S (+\$76.0M), procurement of 2 UC-35 (+\$12.0M) and a Congressional across-the-board reduction (-\$1.214M).

Trainer Aircraft (+\$8.569 million):

Major changes in this budget activity include the following Congressional actions: procurement of 4 JPATS (+\$11.0M) and a Congressional across-the-board reduction (-\$2.431M).

Other Aircraft (+\$64.475 million):

Major changes in this budget activity include the following Congressional actions: procurement of 1 KC-130J (+\$64.9M) and a Congressional across-the-board reduction (-\$0.425M).

Modification of Aircraft (+\$316.801 million):

Major changes in this budget activity include Congressional action to the following modification programs: EA-6 Series (+\$79.0M), F-18 Series (+\$3.0M), AH-1W Series (+\$5.0M), H-53 Series (-\$18.4M), SH-60 Mod (+\$1.0M), H-1 Series (+\$9.0M), EP-3 Series (+\$12.0M), P-3 Series (+\$66.0M), S-3 Series (-\$10.0M), E-2 Series (+\$47.9M), C-2 Series (+\$6.0M), E-6 Series (-\$1.7M), Special Project A/C (+\$2.0M), Common ECM Equipment (+\$4.0M); the following Congressional Kosovo supplementals: P-3 Series (+\$48.1M), EA-6 Series (+\$25.5M) and AV-8 Series (+\$16.0M); a Congressional across-the-board reduction (-\$9.499M); an increase in EP-3 to fund a high priority readiness requirement derived from Kosovo lessons learned (+\$22.0M); and a BTR from Spares to F-18 Series to fund a critical Multifunctional Information Distribution System (MIDS) shortfall(+ \$9.9M).

SPARES (+\$86.784 million):

Major changes in this budget activity include a Congressional Kosovo supplemental for Aircraft Initial spares (+\$102.2M); a Congressional across-the-board reduction (-\$5.516M); and a BTR from Spares to F-18 Series to fund a MIDS shortfall (-\$9.9M).

Aircraft Support Equipment and Facilities (-\$15.714 million):

Major changes in this budget activity include the following Congressional actions: a reduction to Common Ground Equipment (-\$32.8M), increases to Other Production Charges (+\$25.0M) and War Consumables (+\$3.1M) and a Congressional across-the-board reduction (-\$11.014M).

**COMPARISON OF FY 2000 FINANCING AS REFLECTED IN THE FY 2000/2001 PRESIDENT'S BUDGET
WITH FY 2000 FINANCING SHOWN IN THE FY 2001 PRESIDENT'S BUDGET**

(In Thousands of Dollars)

	Financing per FY 2000/2001 Budget	Financing per FY 2001 Budget	Increase (+) or Decrease (-)
Program Requirements (Total).....	\$8,235,755	\$8,830,203	\$594,448
Program Requirements (Service account).....	\$8,228,655	\$8,823,103	\$594,448
Program Requirements (Reimbursable).....	\$7,100	\$7,100	\$0
<i>Less:</i>			
<i>Anticipated Reimbursements.....</i>	\$7,100	\$7,100	\$0
<i>Transferred from other accounts.....</i>	\$0	\$0	\$0
<i>Unobligated Balance Available.....</i>	\$0	\$0	\$0
<i>Add:</i>			
<i>Transferred to other accounts.....</i>	\$0	\$0	\$0
<i>Unobligated balance available to finance....</i>	\$0	\$0	\$0
<i>subsequent year budget plans.....</i>	\$0	\$0	\$0
<i>Reprogramming from/to prior year budgets....</i>	\$0	\$0	\$0
<i>Anticipated transfers to other accounts....</i>	\$0	\$0	\$0
Appropriation.....	\$8,228,655	\$8,823,103	\$594,448

EXPLANATION OF CHANGES IN FINANCING

The change in program requirements of \$594,448,000 is the result of specific Congressional increases of +\$733,500,000 and specific reductions of -\$107,700,000 which were offset by a Congressionally directed across-the-board reduction - \$44,352,000, as well as increased program account needs +\$13,000,000, as previously explained.

There are no financing changes.

AIRCRAFT PROCUREMENT, NAVY

For construction, procurement, production, modification and modernization of aircraft, equipment, including ordnance, spare parts, and accessories therefore; specialized equipment; expansion of public and private plants, including the land necessary therefore, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; \$7,963,858,000 to remain available for obligation until September 30, 2003.

FINANCING

FY 2001 budget plan of \$7,963,858,000 for the Aircraft Procurement, Navy appropriation is to be financed by new obligational authority.

Exhibit P-40, BUDGET ITEM JUSTIFICATION

APPROPRIATION/BUDGET ACTIVITY

Aircraft Procurement, Navy/APN-5 Aircraft Modifications

Program Element for Code B Items:

P-1 ITEM NOMENCLATURE

EA-6 Series Modifications

Other Related Program Elements

DATE:

February 2000

	Prior Years	ID Code		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY													
COST (In Millions)	905.2	A		112.5	208.9	264.5	203.1	251.0	217.5	205.3	176.2	696.7	3,240.8

This line item funds modifications to the EA-6 aircraft. The EA-6B Prowler is a four-seat derivative of the A-6 Intruder medium attack aircraft. Among its features are a computer controlled electronic surveillance and control system and high power jamming transmitters in various frequency bands which are contained in pods mounted externally on the five aircraft pylons. The overall goal of the modifications budgeted in FY 01 is the procurement of a Universal Exciter Upgrade, Low Band Transmitters, Block 89A upgrade kits and ICAP III.

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(TOA, \$ in Millions)

OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
19-79	ALQ-99 PODS	419.6	48.4	135.9	50.2	54.1	27.6	13.0	12.3	12.5	126.9	900.4
111-87	J-52 Engines	5.0				3.4	8.4	8.4	5.3	0.3		30.8
32-85	EA-6B Structural Improvements	279.8	37.5	36.6	85.6	45.9	45.6	45.6	45.2	46.9	61.2	729.7
42-93	EA-6B Block 89A Avionics	200.9	26.6	36.4	98.9	74.9	70.0	33.3	8.2			549.2
1-01	ICAP III				29.9	24.8	99.4	117.2	134.4	116.5	508.6	1,030.8
Total		905.2	112.5	208.9	264.5	203.1	251.0	217.5	205.3	176.2	696.7	3,240.8

Note: Totals may not add due to rounding.

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE: <u>ALQ-99 PODS (OSIP 19-79)</u>			
MODELS OF SYSTEMS AFFECTED: <u>EA-6B Series Modifications</u>		TYPE MODIFICATION:	<u>Reliability/Mission Capability</u>
DESCRIPTION/JUSTIFICATION:			
<p><u>BAND 9/10 TRANSMITTER:</u></p> <p>The Band 9/10 Transmitter (Band 9/10) provides the EA-6B an expanded jamming capability against the target tracking/fire control radars of modern Integrated Air Defense Systems. Reliability and maintainability are also greatly improved over that of current ALQ-99 Transmitters. Following a competitive acquisition, Engineering and Manufacturing Development of the Bd 9/10 was initiated in Jan 92. Until Aug 95, the program was conducted as a joint Air Force/Navy program, with the Air Force acting as lead service. In Aug 95, the Air Force transferred program responsibility to the Navy. Through conduct of Developmental and Operational Testing, the Bd 9/10 was shown to meet or exceed the operational requirements specified in OPNAV/N88 ltr Ser No. N880C3/5U663298 of 28 AUG 95. These test results, combined with satisfaction of other exit criteria, permitted a Nov 97 Milestone III approval for full rate production. Contract options for production of 120 Bd 9/10's exercised at that time, will result in deliveries between Jul 99 and Jul 01. Initial Operational Capability achieved in Nov 99. The Band 9/10 inventory objective is 209 and will be achieved via the FY99 Congressional (Kosovo Supplemental) add of \$45M. ALQ-99 Transmitters are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effort/funding is associated with this program. This capability will be available for the total of 123 EA-6B aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard.</p> <p><u>MODIFIED BAND 9/10 TRANSMITTER (BAND 7/8)</u></p> <p>The modified Band 9/10 Transmitter (Band 7/8) provides the EA-6B an ability to counter threat radar electronic protection techniques installed in widely exported threat systems in the Band 7/8 frequency range. Congressional funding plus-up in FY 99 was received that specified modification of Band 9/10 Transmitters to work in lower frequencies. A sole source contract is being sought for an Engineering Change Proposal to the band 9/10 Transmitter and the production of Band 7/8 Transmitters (modified 9/10 transmitters). After the Band 7/8 transmitter's effectiveness is validated, it is expected the Band 7/8 Transmitters produced will support single squadron deployments beginning in 2nd QTR FY03. Band 7/8 operational requirements are specified in OPNAV/N88 ltr Ser No. N880C3/8U658735 of 4 JAN 99. An FY00 Congressional add of \$18M was provided for the procurement of additional Band 7/8 Transmitters. ALQ-99 Transmitters are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effort/funding is associated with this program. This capability is intended for all Block 89A and ICAP III configuration EA-6B aircraft, including Naval Air Reserve aircraft. This requirement does not apply to the National Guard.</p> <p><u>EXTENDED HIGH BAND RADOME</u></p> <p>Modification of the ALQ-99 Extended High Band Radome (EHBR) is required for compatibility with the Band 9/10 Tansmitter (Band 9/10). This modification involves the replacement of sections of the radome composite structure that are damaged by impinging energy radiated by the Band 9/10. No other changes to EHBR performance, reliability or maintainability result. Following a competitive acquisition, the modification effort was initiated in Nov 97. Production deliveries began in May 99 and will be completed in Jan 02. The full retrofit of 250 EHBRs is budgeted. ALQ-99 Radomes are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effort/funding is associated with this program. This capability will be available for the total of 123 EA-6B aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard. The EHBR modification is not addressed in any operational requirement document, but use of unmodified radomes was a significant limitation to Band 9/10 utility during OPEVAL.</p> <p><u>LOW BAND TRANSMITTER</u></p> <p>The Low Band Transmitter (LBT) will provide the EA-6B with an expanded jamming capability against the Early Warning/Acquisition Radars and Communication Links of modern Integrated Air Defense Systems. Reliability and maintainability will also be greatly improved over that of current ALQ-99 Transmitters. Following a competitive acquisition and Milestone II approval, Engineering and Manufacturing Development was initiated in Sep 97. Critical Design Review was conditionally approved in Dec 97; however, a follow-up review to close out action items was completed in Nov 98. Testing to date has consisted of prototype testing conducted at government and contractor facilities. This testing has successfully demonstrated the key performance parameters identified in OPNAV/N88 ltr Ser No. N880C3/6S663399 of 26 JUL 96 can be attained by the present design. Fabrication of Engineering Development Models (EDMs) will occur begin in FY00. EDMs will be used for contractor and Navy testing required to support Milestone III approval, currently anticipated in third quarter FY02. The LBT inventory objective is 180. ALQ-99 Transmitters are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effort/funding is associated with this program. This capability will be available for the total PAA of 123 aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard.</p> <p><u>UNIVERSAL EXCITER UPGRADE</u></p> <p>The Universal Exciter Upgrade (UEU) provides a 30% improvement in reliability over that of the current Universal Exciter (UE / MTBF = 100 hrs). Increased maintainability, elimination of multiple configurations and performance improvements are additional improvements. ORD #474-88-97 defines the UEU requirements. The UEU entered Engineering and Manufacturing Development in 1991 and achieved Milestone III approval for full rate production in Apr 96. A contract for 119 UEUs was awarded in Sep 96. Follow-on procurements are in-process/planned for fiscal years 98-02, which will bring total UEU procurements up to 480. Pursuant to that inventory objective, an FY99 Congressional (Kosovo Supplemental) add of \$39M was received in Sep 99. The modification of UEs to UEUs is accomplished via "turn key" sole source contract. Initial UEU deliveries occurred in Jul 98, which allowed for an Initial Operational Capability in Apr 99. With the planned follow-on procurements, deliveries will continue out into 2003. ALQ-99 Exciters are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effort/funding is associated with this program. This capability will be available for the total PAA of 123 aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard.</p> <p><u>AN/ALQ-99 POD HARDBACK/EMI UPGRADE</u></p> <p>The ALQ-99 Pod Hardback (HDBK) is being upgraded to effect reliability and maintainability improvements, to incorporate design improvements that will prevent pod shutdown from Electromagnetic Interference (EMI) and to provide interface compatibility with the Universal Exciter Upgrade, the Band 9/10 Transmitter and the Low Band Transmitter. Following approval of Engineering Change Proposal No.s AV-91-023 and AV-91-024B1, incorporation of these improvements was initiated in 1992. To date, over 410 modified HDBKs have been delivered to the fleet. Completion of the inventory objective of 430 modified HDBKs occurred in Sep 99. This capability will be available for the total of 123 EA-6B aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard. The HDBK modification is not addressed in any operational requirement document.</p> <p><u>TRANSMITTER COOLANT MODIFICATION</u></p> <p>EA-6B/ALQ-99 Transmitters and support equipment currently use Coolanol for the dielectric coolant required to dissipate heat from and prevent arcing of high voltage power supplies. Coolanol costs over \$300/gallon, is a known carcinogen and must be handled as a hazardous material. Given that the EA-6B is the sole remaining user of Coolanol 35, it's future availability is in doubt. The replacement coolant for Coolanol is Polyalphaolefin (PAO), which costs less than \$25/gallon and is non-hazardous. PAO is widely used by other U.S. military platforms and systems. Additionally, the equipment has to be converted in order to be compatible with the Consolidated Automated Support System (CASS) High Power Device Test Set (HPDTS) modification. HPDTS will allow CASS to test ALQ-99 Transmitters, thereby eliminating the requirements for the EA-6B peculiar Transmitter Test Station (TTS). This transition from the TTS to the CASS is expected to begin in Dec 00. The cooling system of the HPDTS only supports PAO, thus all units tested with it must use PAO as their coolant. ALQ-99 Transmitters require modification in order to utilize PAO, because the polymer-based material currently used as high voltage lead insulation and wire harness identification markers dissolve when exposed to PAO. This material must be replaced with an improved material that through testing has been identified to be impervious to PAO. ECV AV-97-038 delineates the efforts requires to modify Transmitters to a PAO compatible configuration. 1296 Transmitters and 1400 high voltage power supply modules will be modified via a "turn key" program, conducted by a government/contractor field modification team.</p>			

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Delivery of UEU Engineering Design Models (EDMs) began in the first quarter of FY-95 with developmental and operational testing completed in the second quarter of FY-96 achieving approval for full production, milestone III in March 1996 and followed by a production contract award. A development contract for the low band transmitter was awarded in September 1996 with testing expected to begin in the third quarter of FY 2001 and AFP expected in the first quarter of FY-02.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E								4.7		4.0		4.0												12.7
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment	1,397	147.8																					1,397	147.8
Hardback/Pod EMI Equip	1,091	14.5																					1,091	14.5
Band 9/10 Transmitter Equip	125	64.4					84	45.0															209	109.4
Universal Exciter Upgrade	133	62.1			84	35.7	147	65.1	38	13.5	58	31.1	20	13.6									480	221.1
MOD BAND 9/10 (BAND 7/8)							6	16.0	8	18.0													14	34.0
Lowband Transmitter													14	12.0	14	12.0	13	11.2	13	11.4	126	126.9	180	173.5
PAO Transmitter Mod							148	1.2	864	3.6	284	1.2											1,296	6.0
BAND 9/10 RADOME	250	3.8																					250	3.8
Installation Equipment N/R		5.1				2.0						9.1												16.2
Engineering Change Orders																								
Data		9.3						0.2		0.3		0.4												10.1
Training Equipment		1.1				0.5						0.3												1.9
Support Equipment		76.0				5.0		2.5		6.4		7.7												97.6
ILS		2.5						0.2		0.1		0.3		0.2		0.2								3.4
Other Support		16.2				3.2		3.0		6.8		4.1		1.8		0.9		1.1		1.1				38.2
Interim Contractor Support																								
Installation Cost	1,068	16.8				1.9		2.8		1.5														23.0
Total Procurement		419.6				48.4		135.9		50.2		54.1		27.6		13.0		12.3		12.5		126.9		900.4

Notes:

1. Totals may not add due to rounding.
2. Install costs are greater than attached exhibits, as RIM costs are not included on P3a.
3. Install schedules not provided for equipment that fits into the POD without structural modification, or for equipment not requiring APN-5 funding for installation into the pod/aircraft (e.g.: LBT, UEU, Band 9/10, Band 7/8).
4. Install schedule not provided for Hardback as all installs are complete.
5. In FY99, an additional 97 UEU's were procured with KOSOVO Emergency/Supplemental funding. As a result of this acceleration of units, quantity and funding adjustments were made in FY00-FY02.
6. FY01 and FY02 quantities and associated cost reflect contractors latest proposals.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:EA-6B Series ModificationsMODIFICATION TITLE:Transmitter Coolant Modification Polyalphaolefin (PAO)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:Contractor Turn-Key

ADMINISTRATIVE LEADTIME:MonthsPRODUCTION LEADTIME:1Months

CONTRACT DATES:FY 1999:Jun-99FY 2000:Nov-99FY 2001:Nov-00

DELIVERY DATE:FY 1999:Jul-99FY 2000:Dec-99FY 2001:Dec-00

(\$ in Millions)

Cost:	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																								
FY 1999 (148) kits							148																148	
FY 2000 (864) kits								864															864	
FY 2001 (284) kits									284														284	
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
To Complete () kits																								
TOTAL							148		864		284												1,296	

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								5	143	248	263	214	139	118	120	46									
Out								5	143	248	263	214	139	118	120	46									

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										1296
Out										1296

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

EA-6B Structural Improvements (OSIP 32-85)

MODELS OF SYSTEMS AFFECTED:

EA-6 Series Modifications

TYPE MODIFICATION:

Safety of Flight

DESCRIPTION/JUSTIFICATION: This Omnibus Operational and Safety Improvement Program covers EA-6B Structural modifications and EA-6B peculiar avionics modifications arising from test/deficiencies and those safety of flight related improvements. Included are Structural Improvement modifications which includes fixes for areas found to be deficient during aircraft fatigue test; Wing Center Sections (WCS) which replace wings which have either cracked due to stress corrosion or have reached their wing fatigue life limit; Electronic Flight Information Systems (EFIS); GPS/MAGR which installs Global Positioning Satellite capability into the EA-6B for the first time and fulfills the DOD requirements to have GPS capability installed into all Navy, Marine Corps and Coast Guard Aircraft by October 2000; Structural Data Recording System (SDRS) which will provide a more accurate measurement of Fatigue Life Expenditure (FLE); the Joint Mission Planner which provides for the maintenance of the current EA-6B mission planning system (TEAMS) and its subsequent migration to TAMPs. This OSIP also includes the Connectivity and USQ-113 programs.

Connectivity: (ECP AV-97-036) The purpose of this ECP is to provide the system which will allow the EA-6B to receive intelligence broadcasts into the cockpit via the Multi-mission Advanced Tactical Terminal (MATT) and to transmit and receive data via the Improved Data Modem (IDM) to and from other IDM equipped platforms. Aircraft wiring kits (A-kits) have been procured for the 123 aircraft in the EA-6B inventory. A total of 54 MATT/IDM systems (B-kits) have been procured and will be "cross-decked" among the 123 aircraft. Installs are scheduled for 94 in FY99, 20 in FY00 and 3 in FY01. For test purposes and validation/verification efforts seven systems have been installed in FY98. The MATT/IDM is addressed under the EA-6B ORD (#474-88-97). The purpose of **ECP319R1** is to install an ARC-182 radio as a 3rd radio in Block 82 aircraft and to upgrade the ARC-159 (UHF) radio to the ARC-182 (UHF/VHF) radio in the 3rd radio position of Block 89 aircraft. The addition of the ARC-182 radio will improve the performance capability of the Block 82 and 89 aircraft by adding a combination UHF/VHF radio as a replacement for a UHF only radio. This ECP will be required to achieve full operating compatibility of the MATT/IDM system. A total of 70 radios will be procured. An FY99 Congressional (Kosovo Supplemental) add of \$30.4M was received in Sep 99 and will complete MATT/IDM deployment to the fleet.

USQ-113: (AFCs 665 and 760) The purpose of these AFCs is to install the basic installation provisions for the USQ-113 system (665) and to install the needed Electromagnetic Interference provisions for the aircraft (760). Five installs are planned for FY99 by a field modification team. The remainder of the installations will occur in conjunction with SDLM. The AFCs must be in place prior to the installation of AFC793 which installs the USQ-113 (V)3 system. AFC 793: The purpose of this AFC is to install the USQ-113 (V)3 Radio Countermeasures Set into the aircraft. The USQ-113 (V)3 system is an upgrade of the USQ-113(V)2 Phase I system and provides improved mission capability for the EA-6B aircraft. Aircraft wiring kits (A-kits) will be procured for 123 aircraft and 63 USQ-113 systems (B-kits) will be procured and will be crossdecked among the 123 aircraft. The USQ-113 is addressed under the EA-6B ORD (#474-88-97)

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The EFIS system proof of concept was completed the first quarter of FY 1995. The aircraft prototype installation design was completed the third quarter of FY 1995 and installation kit validation and verification was completed second quarter of FY 1996. The GPS/MAGR is in full rate production as a joint program (Air Force Lead). The manufacturer is Rockwell Collins. Other platforms with GPS/MAGR installed include C-2, H-60 and E-2.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																								
PROCUREMENT																								
Installation Kits	2,745	36.0																					2,745	36.0
Structures Improvements Kits	250	0.2																					250	0.2
Connectivity Kit	125	2.8																					125	2.8
Band 10 Receiver Kits	127	0.9																					127	0.9
SDRS Kit					4	0.1	26	0.4	51	0.8	42	0.7											123	1.9
Installation Kits N/R		14.0				0.5		5.1																19.6
Installation Equipment	963	17.9																					963	17.9
Wing Center Section Equip	26	84.6			5	20.6			15	55.0	9	34.5	9	32.9	9	33.3	9	33.7	9	35.3	6	24.2	97	354.1
AN/USQ-113 Equip	185	26.3			9	3.9																	194	30.2
Mini Airborne Tactical Termin	54	8.6					68	12.7															122	21.3
Improved Data Modem (IDM)	54	1.9					65	2.7															119	4.6
ARC-210 Radio (USQ-113)	48	1.7			18	0.6																	66	2.3
ARC-182 Radio Equip	36	0.2					34	0.2															70	0.4
SATCOM Antenna Equip	125	0.3																					125	0.3
Connectivity- Remote Fill Dev	125	0.1																					125	0.1
Conn-Laptop Controllers Equip	108	1.4																					108	1.4
Operational Tester Equip	3	0.5																					3	0.5
Installation Equipment N/R		5.6				2.6			1.5		1.3													11.0
Engineering Change Orders		0.2							20.0															20.2
Data		10.1				0.4		0.8			0.2													11.5
Training Equipment		1.4					1.2																	2.6
Support Equipment		5.6						3.9		5.5	0.1													15.1
ILS		1.2									0.4													1.6
Other Support		24.9				5.3		7.3		1.8	1.0		0.8		0.1		0.3		0.4		0.8			42.7
Interim Contractor Support																								
Installation Cost	662	33.8			68	2.3	193	3.5	115	1.0	73	7.7	10	11.9	10	12.1	9	11.2	9	11.2	28	36.2	1128	130.9
Total Procurement		279.8				37.5		36.6		85.6		45.9		45.6		45.6		45.2		46.9		61.2		729.7

Notes:

1. Totals may not add due to rounding
2. Included in the "installation cost" line, for FY98 and beyond, are quantities from prior year procurements that have not been installed. The schedules provided are only for current FY98 and beyond procurements.
3. In FY99, an additional 68 MATT/65 IDM's (\$30.4M) are procured and supported by the KOSOVO Emergency Supplemental funding. In addition, FY 2000 KOSOVO funds were provided to establish the 9th Expeditionary Squadron Equipment (\$5.5M Vehicle Enhancement Program Reconstitution (\$20M) and Mobile Maintenance Facility (\$.6M).

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: **EA-6B Series Modifications**MODIFICATION TITLE: Center Wing Section (OSIP 32-85)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Turn-key for FY97 Procurement. Commercial & Organic installs FY98 and out.**ADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 28 MonthsCONTRACT DATES: FY 1999: _____ FY 2000: Nov-99 FY 2001: Nov-00DELIVERY DATE: FY 1999: _____ FY 1999: Mar-02 FY 2001: Mar-03

(\$ in Millions)

Cost:	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (31) kits	26	27.1			7		10		3		5	7.0											31	34.2
FY 1999 () kits																								
FY 2000 (15) kits													10	11.9	5	6.0							15	17.9
FY 2001 (9) kits															5	6.1	4	4.9					9	11.0
FY 2002 (9) kits																	5	6.3	4	4.9			9	11.2
FY 2003 (9) kits																			5	6.3	4	5.2	9	11.5
FY 2004 (9) kits																					9	11.5	9	11.5
FY 2005 (9) kits																					9	11.5	9	11.5
To Complete (6) kits																					6	8.0	6	8.0
TOTAL	26	27.1			7		10		3		5	7.0	10	11.9	10	12.1	9	11.2	9	11.2	28	36.2	117	116.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	6	1	1	1	4	3		3	4	3						3	2		1	5	4	5	1	2	2
Out	6			1	1	1	4	3		3	4	3						3	2		1	5	4	5	1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	3	2	2	2	3	2	2	2	28	97
Out	2	2	3	2	2	2	3	2	32	97

*FY98-00 installs result from FY97 & prior turn-key procurement

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: **EA-6B BLOCK 82 & 89 AIRCRAFT**MODIFICATION TITLE: ARC 182 RADIOS (Structural and Avionics Sys Improv- OSIP 32-85) [ECP 319A1]

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR MOD TEAM**ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 9 MonthsCONTRACT DATES: FY 1999: Nov-98

FY 2000: _____

FY 2001: _____

DELIVERY DATE: FY 1999: Jul-99

FY 2000: _____

FY 2001: _____

(\$ in Millions)

Cost:	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (36) kits							9	*	27	0.1													36	0.1
FY 1999 (26) kits **									9	*	17	0.1											26	0.1
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
To Complete () kits																								
TOTAL							9	*	36	0.1	17	0.1											62	0.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									9	9	9	9	9	9	8										
Out										9	9	9	9	9	9	8									

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										62
Out										62

** 70 Proc , 8 units to be used/installed for Trainers/test

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: EA-6B Series ModificationsMODIFICATION TITLE: SDRS KITS (OSIP 32-85)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Mod Team/OrganicADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 5 MonthsCONTRACT DATES: FY 1999: Jan-99FY 2000: Nov-99FY 2001: Nov-00DELIVERY DATE: FY 1999: Jun-99FY 2000: Mar-00FY 2001: Mar-01

(\$ in Millions)

Cost:	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (4) kits							4	0.0															4	0.0
FY 1999 (26) kits							26	0.3															26	0.3
FY 2000 (51) kits									35	0.4	16	0.2											51	0.5
FY 2001 (42) kits											42	0.4											42	0.4
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
To Complete () kits																								
TOTAL							30	0.3	35	0.4	58	0.6											123	1.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							4	4	22		7	14	14	16	8	17	17								
Out							4	2	14	10	5	15	15	15	9	14	14	6							

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										123
Out										123

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

J-52 Engines (OSIP 111-87)

MODELS OF SYSTEMS AFFECTED:

EA-6B Series Modification

TYPE MODIFICATION:

Reliability Upgrade

DESCRIPTION/JUSTIFICATION: J-52 Engine Reliability Improvements: The J-52 engine is a legacy gas turbine engine, which powers the EA-6B and has been in service since the 1960's. This initiative will capitalize on R&D efforts funded through the Engine Component Improvement Program (CIP). Through the CIP, the J-52 Team has identified specific reliability discrepancy trends and has developed appropriate Engineering Change Proposals (ECP) and Power Plant Changes (PPC). To specifically address the risk of uncontained turbine blade failures and design various other engine improvements, CIP projects were undertaken. The results include an improved Turbine Exhaust Case (TEC) that provides low pressure turbine (LPT) containment and other durability improvements. These improvements will be replaced at normal engine overhaul, incurring no additional installation costs. The current LPT Turbine Exhaust Case (TEC) is also the highest cost driven on the J52P408A.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Development of the Improved Turbine Exhaust Case (TEC) began in FY95 using engine CIP and contractor funds. Testing and ECP approval was completed in the first quarter of FY98 (OCT 97), followed by a production contract award. Forty-nine (49) Turbine Exhaust Cases (TEC) have been funded and deliveries/incorporations are underway. All ECPs are approved and Technical Directives (TD) are completed or in process. Incorporation of initial PPC 306 TEC kits is in process. Initial PPC 304 kits are on order and NAVICP is currently procuring attrition parts.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																							0	0.0
PROCUREMENT																							0	0.0
Installation Kits																							0	0.0
Turbine Blade Containment Kit	40	4.1							0		33	3.1	82	8.1	83	8.1	53	5.0					291	28.4
Installation Kits N/R		0.4																					0	0.4
Installation Equipment																							0	0.0
Installation Equipment N/R																							0	0.0
Engineering Change Orders																							0	0.0
Data		0.1																					0	0.1
Training Equipment																							0	0.0
Support Equipment		0.3																					0	0.3
ILS		0.1																					0	0.1
Other Support		0.1									0.3		0.3		0.3		0.3		0.3				0	1.6
Interim Contractor Support																							0	0.0
Installation Cost																							0	0.0
Total Procurement		5.0		0.0		0.0		0.0		0.0		3.4		8.4		8.4		5.3		0.3		0.0		30.8

Notes:

1. Totals may not add due to rounding

2. Additional funding provided within the FYDP reflects an approved Reduction in Total Ownership Cost (RTOC) initiative.

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

Block 89A Avionics (OSIP 42-93)

MODELS OF SYSTEMS AFFECTED:

EA-6 Series Modifications

TYPE MODIFICATION:

Safety of Flight/ Reliability

DESCRIPTION/JUSTIFICATION:

This omnibus Operational and Safety Improvement Program covers EA-6B ICAP II Block 89 Avionics systems modifications to install required communications, navigation, and miniaturized technology improvements. Block 82 aircraft will be baselined to the Block 89 configuration for incorporation of these improvements providing one configuration of EA-6B aircraft reducing support costs. The avionics common systems upgrade includes incorporation of: (1) AN/ARC-210 VHF/UHF radios having SINCGARS and HAVEQUICK modes for inter-operability with Air Force, ground, and NATO forces. (2) The Embedded GPS Inertial Navigatic System (EGI) providing a closely coupled GPS-INS solution and replacing the ASN-50 AHRs which has very poor reliability. (3) Full integration of the Electronic Instrumentation System (EFIS), Control Display Navigation Unit (CDNU), and Digital Signal Data Converter (DSDC), which were installed as part of AFC778-779. This OSIP provides for upgrade of the DSDC for use in Block 89A. The DSDC functions as an interface unit for the EFIS and is connected to the 1553 Navigation data bus to provide additional navigation data to the aircrew. (4) The AYK-14 computer will be upgraded with Very High Speed Integrated Circuit Technology (VHSIC) improving processing, memory, and throughput. The upgraded computer (CP-2357) will retain the outer form factor of the current computer and incorporate a new backplane that supports the new VHSIC processor Module and provides VME-bus expansion slots. Discrete and Serial Modules (DSM) replace the Serial Interface Module-A (SIM-A) cards. (5) Mission Planning System: The AN/TSQ-142 Mission Planner provides operational flight program loading, maps, EW libraries, jammer techniques, HARM data, and performs data reduction. Modifications to the AN/TSQ-142 are required to support the Block-89A upgrade, and to support transition of EA-6B mission planning to TAMPSS. (6) Block 82 to 89 Upgrade: 20 Block 82 aircraft will be upgraded to the Block 89 standard configuration by adding the fire extinguishing system, fuel discharge improvements, yaw rate indicator, ARC-182 and ARC-199 radios, additional caution lights, tailpipe improvements, antenna disconnect ad ICS improvements, and a Computer Interface Unit/Encoder (CIU/E). (7) Misc. Avionics: Additional miscellaneous procurements of avionics, such as ARC-199 Radios and CIU/E units are required as part of both the Block-89A and Block-82/89 upgrades and equipment to provide Night Vision capability to a Block-89A aircraft..

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ARC-210 UHF/VHF radio is a common avionics system to be installed in all Navy aircraft, and has undergone OPEVAL on the F-18, UH-1, and other platforms. The EA-6B has been approved for installation. The EFIS system was installed and tested in FY 1996 in the ICAP-II aircraft and will require minimal upgrade FOT&E for the required interface and incorporation of EGI data. The EGI is common avionics with the F-18 EGI and has been extensively flight tested in that platform. The AYK-14 (XN-7) computer utilizes modules that are common avionics to Navy inventory, and a chassis similar to the current XN-4. The similarity and commonality of the upgraded AYK-14 required little additional qualification testing. DT began on the Block -89A system in FY-98, with an intensive integrated Test and Evaluation period. OT is scheduled to conclude June 1999. Testing of software, upgraded avionics, including some regression testing o existing functionality, and testing of the mission planning system will be performed during the DT/OT tests.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Block 82 to 89	20	59.5																					20	59.5
Block 82 to 89A kit							3	5.3	12	19.0	13	21.0	13	21.3	5	8.4							46	75.0
Block 89 to 89A Kit					9	7.1	14	3.1	8	2.6	8	2.6											39	15.4
NVD Kits									150	13.5													150	13.5
Installation Kits N/R	8	51.5				3.1		2.4		2.6		2.1		0.8		0.2							8	62.7
Installation Equipment	60	3.0																					60	3.0
Block 82 to 89 Equip	20	1.6																					20	1.6
Block 82 to 89A Equip							3	1.0	12	4.1	13	4.6	13	4.6	5	1.8							46	16.1
Block 89 to 89A					9	*	14	0.4	8	0.2	8	0.2											39	0.8
EGI	4	0.8			9		17		20		21		13		5						34		123	0.8
ARC-210 Equip	6	0.5			18		34		40		42		26		10						68		244	0.5
AN/AYK-14	6	0.7			9	0.9	20	2.1	20	2.1	21	2.2	13	1.4	5	0.5							94	9.9
CIU/Encoder	26	6.9					3		15	6.5	13	5.7	13	5.9	5	2.3							75	27.3
NVD Equip									270	2.9													270	2.9
Installation Equipment N/R	2	3.0																					2	3.0
Engineering Change Orders																								
Data		5.9				1.1		0.5		0.5		0.3		0.1										8.4
Training Equipment		10.5				1.7		0.9		0.6		0.2												13.9
Support Equipment		12.6				2.6		6.4		6.1		6.4		6.1		0.6								40.9
ILS		0.5				0.1		1.1		7.5		3.9		3.8		0.3								17.3
Other Support		39.9				10.0		10.3		12.6		5.9		3.6		0.4								82.7
Interim Contractor Support																								
Installation Cost	20	4.1			11	*	9	2.9	117	18.1	18	19.9	21	22.4	13	18.7	5	8.2					214	94.3
Total Procurement		200.9				26.6		36.4		98.9		74.9		70.0		33.3		8.2						549.2

Notes:

1. Totals may not add due to rounding.
2. EGI and ARC-210 Equipment quantities are funded under the Common Avionics budget.
3. CIU/Es (FY02) some will be made available from ICAP III Modification Line FY03 inc.s 3 for trainers
4. Included in the 'Other Support' line, for FY's 00-02, is funding for HARM Block VI Upgrade engineering efforts.
5. In FY00, total program increases \$31.0M as a result of a Congressional plus-up for Night Vision Devices (NVD).

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EA-6B Series Block 89A ModificationsMODIFICATION TITLE: Block 89A Avionics System Improvement (OSIP 42-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

CommercialADMINISTRATIVE LEADTIME: 6 MonthsPRODUCTION LEADTIME: 12 MonthsCONTRACT DATES: FY 1999: Apr-99 FY 2000: Mar-00FY 2001: Mar-01DELIVERY DATE: FY 1999: Apr-00 FY 2000: Mar-01FY 2001: Mar-02

(\$ in Millions)

Cost:	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (13) kits**	4	34.2					9	2.9															13	37.1
FY 1999 (19) kits									19	13.0													19	13.0
FY 2000 (18) kits											18	19.9											18	19.9
FY 2001 (21) kits													21	22.4									21	22.4
FY 2002 (13) kits															13	18.7							13	18.7
FY 2003 (5) kits																	5	8.3					5	8.3
FY 2004 () kits																								
FY 2005 () kits																								
To Complete () kits																								
TOTAL	4	34.2					9	2.9	19	13.0	18	19.9	21	22.4	13	18.7	5	8.3					89	119.4

** (4 PY) Validation/Verification Kits (Install Kit N/R)

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	4					1	3	3	2	2	4	6	7	1	5	6	6	3	6	6	6	3	3	4	3
Out	2	1	1							1	3	3	3	2	2	4	5	6	2	6	6	6	2	6	6

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	2	2	1							89
Out	6	2	3	4	3	3	3	1		89

A/C inducted four months ahead of delivery, as this is done concurrent with SDLM, and teardown and partial SDLM must be completed before kit installation

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

EA-6B Series Block 82-89 Update

MODIFICATION TITLE: Block 89 Avionics System Improvement (OSIP 42-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Contractor-Turnkey (Cost included in procurement price)

ADMINISTRATIVE LEADTIME:

Months

PRODUCTION LEADTIME:

Months

CONTRACT DATES:

FY 1999:

FY 2000:

FY 2001:

DELIVERY DATE:

FY 1999:

FY 2000:

FY 2001:

(\$ in Millions)

Cost:	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (20) kits	8				4		8																20	
FY 1999 () kits																								
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
To Complete () kits																								
TOTAL	8				4		8																20	

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8		2	1	1	2	4	2																	
Out						1	5	3	2		3	4	2												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										20
Out										20

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

EA-6B Series Modifications

MODIFICATION TITLE:

Night Vision Devices

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Contractor-Turnkey (cost is included in procurement price)

ADMINISTRATIVE LEADTIME:PRODUCTION LEADTIME:

6 Months

CONTRACT DATES:

FY 1999:FY 2000:

Jun-00

FY 2001:

DELIVERY DATE:

FY 1999:FY 2000:

Dec-00

FY 2001:

(\$ in Millions)

Cost:	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY98 & () PY Kits																								
FY 1999 () kits																								
FY 2000 (98) kits									98														98	
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
To Complete () kits																								
TOTAL									98														98	

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In												23	25	25	25										
Out														23	25	25	25								

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										98
Out										98

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

ICAP III (OSIP 1-01)

MODELS OF SYSTEMS AFFECTED:

EA-6 Series Modifications

TYPE MODIFICATION:

Safety of Flight/ Reliability

DESCRIPTION/JUSTIFICATION:

This Operational and Safety Improvement Program covers the EA-6B Improved Capabilities III (ICAP III) systems modifications to install required radar and communications receiver, displays, and connectivity improvements. Additionally, this modification removes over 70 aging and unreliable Weapons Replace Assemblies (WRAs). Specifically, the modification program replaces the ALQ-99 receiver System with the LR-700 receiver system, replaces the TDY-43 display system with a new COTS based display system for the Pilot and three Electronic Countermeasures Officers (ECMOs), replaces the Recorder Reproducer Set (RRS) with a new Digital Recorder, incorporates the Multi-Mission Advanced Tactical Terminal (MATT) which provides reception of datalinks such as TIBS, Incorporates the USQ-113 Communication Receiver/Jammer with the Onboard System, and provides provisions for Link-16. The ICAP III training system upgrade/link will be procured in FY-01 and FY-02. In FY01, sufficient engineering data is available to procure the ICAP III Training System which will consist of Aircrew and Maintenance trainers, and training curriculum. The Training system must be procured in FY-01 in order to meet the operational requirements of first aircraft delivery to the Fleet Replacement Squadron (FRS) ICAP III Equipment consists of Connectivity and Communications Receiver/Jammer (MATT/IDM and USQ-113). Procurement of GFE is not required for aircraft inductions until the outyear (i.e. To Complete) production because existing quantities of avionics previously procured on other programs are available for reuse on this program. The Installation Kit line includes all production NRE (FY-02 only) and the Contractor fabricated A and B kits. These items are not separately priced but are included as a single priced item by the contractor.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Following a Full and Open Competition, Milestone II approval was received, and an EMD RDT&E development contract was awarded to the Northrop Grumman Corporation in March 1998. Following a DT/OT and LRIP, the contract will be awarded in FY-02 with full rate production occurring in FY-03 after completion of an OPEVAL and receipt of a MILESTONE III decision.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		29.5						54.7		74.6		40.0		17.7		7.9								224.4
PROCUREMENT																								
Installation Kits													11	76.3	15	86.0	15	82.7	15	78.0	65	280.3	121	603.3
Installation Kits N/R																		1.8						1.8
Installation Equipment												8.0										81.9		89.9
Installation Equipment N/R																	2.0							2.0
Engineering Change Orders																								
Data																								
Training Equipment									2	29.9	1	16.8	1	15.0									4	61.7
Support Equipment													7.6		8.3		12.6		8.0			31.5	2	68.0
ILS																	2.9		1.0			8.0		11.9
Other Support													0.5		3.1		6.0		3.0			20.0		32.6
Interim Contractor Support																								
Installation Cost															11	19.8	15	26.4	15	26.5	80	86.9	121	159.6
Total Procurement										29.9		24.8		99.4		117.2		134.4		116.5		508.6		1,030.8

Notes:

- Totals may not add due to rounding
- In FY00, total program increases \$29.9M as result of a Congressional Plus-up for Simulators.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

EA-6B Series ICAP III Upgrade

MODIFICATION TITLE:ICAP III System Improvement (OSIP 1-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Commercial

ADMINISTRATIVE LEADTIME:

5Months

PRODUCTION LEADTIME:

15Months

CONTRACT DATES:

FY 1998:

FY 1999:

FY 2000:

FY 2001:

DELIVERY DATE:

FY 1998:

FY 1999:

FY 2000:

FY 2001:

(\$ in Millions)

Cost:	Prior Years				FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																								
FY 1999 () kits																								
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 (11) kits															11	19.8							11	19.8
FY 2003 (15) kits																	15	26.4					15	26.4
FY 2004 (15) kits																		15	26.5				15	26.5
FY 2005 (15) kits																				15	22.5		15	22.5
To Complete (65) kits																				65	64.4		65	64.4
TOTAL															11	19.8	15	26.4	15	26.5	80	86.9	121	159.6

** Aircraft are inducted one month before kit delivery

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																						2	3	3	3
Out																								2	3

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	3	4	4	4	3	4	4	4	80	121
Out	3	3	3	4	4	4	3	4	88	121

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: February 2000																																																																																																																																																																																																								
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE AV-8B Series Modifications																																																																																																																																																																																																								
Program Element for Code B Items:							Other Related Program Elements																																																																																																																																																																																																								
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																																																																																																			
QUANTITY		A																																																																																																																																																																																																													
COST (In Millions)	105.9	A	23.3	85.7	54.9	40.6	60.8	37.4	31.9	31.1	139.9	611.5																																																																																																																																																																																																			
<p>This line item funds modifications to AV-8B aircraft. The AV-8B is a single engine, single crewmember aircraft capable of vertical/short take-off and landing (V/STOL) operations. The AV-8B meets the Marine Corps requirements for a light attack aircraft to provide responsive offensive air power that can operate austere forward bases in direct support of ground forces. The overall goal of the modifications budgeted in FY 2001 is to include incorporation of improved digital communications with the addition of the Automatic Target Hand-Off System; incorporation of the ARC-210 radio which provides UHF capability for CV based TACAIR, VHF FM for close air support and maritime channels; completion of structure safety improvements in a new stabilator center section; replacement of power cable MIL-W-81381 wire with MIL-W-22759 wire; and continued incorporation of Operational and Safety improvements to the aircraft.</p> <p>The AV-8B inventory (12 Jan 2000) consists of 4 major configurations: 19 two-seat TAV-8B aircraft, 52 DAY-Attack aircraft, 47 NIGHT-Attack Aircraft, and 52 Night-Attack-RADAR aircraft.</p> <p>In addition there are 21 undelivered aircraft that are in the Remanufacture process. The production (Remanufacture) program reduces the Day-Attack inventory by approximately 1 aircraft per month and increases the Night-Attack-Radar aircraft inventory by approximately 1 aircraft per month. Retrofit quantities of each ECP depend on the aircraft configuration type and if & when the change was introduced into production.</p> <p style="text-align: center;">(TOA, \$ in Millions)</p> <table border="1"> <thead> <tr> <th>OSIP No.</th> <th>Description</th> <th>Prior Years</th> <th>FY 1998</th> <th>FY 1999</th> <th>FY 2000</th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> <th>FY 2004</th> <th>FY 2005</th> <th>To Complete</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1-91</td> <td>Omnibus O&S Improvements</td> <td>27.7</td> <td>13.0</td> <td>13.9</td> <td>6.2</td> <td>10.5</td> <td>9.6</td> <td>10.0</td> <td>7.1</td> <td>2.1</td> <td>7.4</td> <td>107.6</td> </tr> <tr> <td>17-92</td> <td>GPS</td> <td>23.8</td> <td>0.4</td> <td>0.3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>24.5</td> </tr> <tr> <td>21-92</td> <td>Auto. Target Hand-Off System</td> <td>18.6</td> <td>1.5</td> <td>1.7</td> <td>4.1</td> <td>1.9</td> <td>0.2</td> <td></td> <td></td> <td></td> <td></td> <td>28.0</td> </tr> <tr> <td>23-92</td> <td>AN/ARC-210(V) EP Radio</td> <td>3.9</td> <td>1.9</td> <td>1.4</td> <td>3.0</td> <td>0.9</td> <td>0.9</td> <td></td> <td></td> <td></td> <td></td> <td>12.1</td> </tr> <tr> <td>34-93</td> <td>Horizontal Stabilator Fatigue Impr.</td> <td>16.3</td> <td>0.4</td> <td>0.9</td> <td>0.5</td> <td>0.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>18.4</td> </tr> <tr> <td>16-94</td> <td>Aircraft Life Extension Program</td> <td>10.1</td> <td>1.3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>11.4</td> </tr> <tr> <td>3-96</td> <td>KAPTON Wire Replacement</td> <td>5.5</td> <td>4.7</td> <td>5.8</td> <td>7.4</td> <td>2.1</td> <td>4.1</td> <td></td> <td></td> <td></td> <td></td> <td>29.7</td> </tr> <tr> <td>23-99</td> <td>Mission Planning</td> <td></td> <td></td> <td>1.6</td> <td>1.2</td> <td>3.0</td> <td>2.4</td> <td>2.7</td> <td></td> <td></td> <td></td> <td>10.9</td> </tr> <tr> <td>25-99</td> <td>TAV-8B Performance Upgrade</td> <td></td> <td></td> <td>60.1</td> <td>14.7</td> <td>20.4</td> <td>13.3</td> <td>1.4</td> <td></td> <td></td> <td></td> <td>109.8</td> </tr> <tr> <td>18-00</td> <td>SJU-4 Escape System Performance Upgrade</td> <td></td> <td></td> <td></td> <td>1.8</td> <td>1.6</td> <td>1.9</td> <td>0.1</td> <td></td> <td></td> <td></td> <td>5.3</td> </tr> <tr> <td>23-00</td> <td>Litening II Pod</td> <td></td> <td></td> <td></td> <td>16.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>16.0</td> </tr> <tr> <td>XX-02</td> <td>JDAM Provisions</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>19.9</td> <td>15.3</td> <td>13.9</td> <td>15.5</td> <td>28.3</td> <td>93.0</td> </tr> <tr> <td>XX-02</td> <td>Survivability & Vulnerability</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8.3</td> <td>7.9</td> <td>10.9</td> <td>13.5</td> <td>104.2</td> <td>144.9</td> </tr> <tr> <td>TOTAL</td> <td></td> <td>105.9</td> <td>23.3</td> <td>85.7</td> <td>54.9</td> <td>40.6</td> <td>60.8</td> <td>37.4</td> <td>31.9</td> <td>31.1</td> <td>139.9</td> <td>611.5</td> </tr> </tbody> </table> <p>Note: Totals may not add due to rounding.</p>													OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total	1-91	Omnibus O&S Improvements	27.7	13.0	13.9	6.2	10.5	9.6	10.0	7.1	2.1	7.4	107.6	17-92	GPS	23.8	0.4	0.3								24.5	21-92	Auto. Target Hand-Off System	18.6	1.5	1.7	4.1	1.9	0.2					28.0	23-92	AN/ARC-210(V) EP Radio	3.9	1.9	1.4	3.0	0.9	0.9					12.1	34-93	Horizontal Stabilator Fatigue Impr.	16.3	0.4	0.9	0.5	0.2						18.4	16-94	Aircraft Life Extension Program	10.1	1.3									11.4	3-96	KAPTON Wire Replacement	5.5	4.7	5.8	7.4	2.1	4.1					29.7	23-99	Mission Planning			1.6	1.2	3.0	2.4	2.7				10.9	25-99	TAV-8B Performance Upgrade			60.1	14.7	20.4	13.3	1.4				109.8	18-00	SJU-4 Escape System Performance Upgrade				1.8	1.6	1.9	0.1				5.3	23-00	Litening II Pod				16.0							16.0	XX-02	JDAM Provisions						19.9	15.3	13.9	15.5	28.3	93.0	XX-02	Survivability & Vulnerability						8.3	7.9	10.9	13.5	104.2	144.9	TOTAL		105.9	23.3	85.7	54.9	40.6	60.8	37.4	31.9	31.1	139.9	611.5
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																																																																																																			
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17-92	GPS	23.8	0.4	0.3								24.5																																																																																																																																																																																																			
21-92	Auto. Target Hand-Off System	18.6	1.5	1.7	4.1	1.9	0.2					28.0																																																																																																																																																																																																			
23-92	AN/ARC-210(V) EP Radio	3.9	1.9	1.4	3.0	0.9	0.9					12.1																																																																																																																																																																																																			
34-93	Horizontal Stabilator Fatigue Impr.	16.3	0.4	0.9	0.5	0.2						18.4																																																																																																																																																																																																			
16-94	Aircraft Life Extension Program	10.1	1.3									11.4																																																																																																																																																																																																			
3-96	KAPTON Wire Replacement	5.5	4.7	5.8	7.4	2.1	4.1					29.7																																																																																																																																																																																																			
23-99	Mission Planning			1.6	1.2	3.0	2.4	2.7				10.9																																																																																																																																																																																																			
25-99	TAV-8B Performance Upgrade			60.1	14.7	20.4	13.3	1.4				109.8																																																																																																																																																																																																			
18-00	SJU-4 Escape System Performance Upgrade				1.8	1.6	1.9	0.1				5.3																																																																																																																																																																																																			
23-00	Litening II Pod				16.0							16.0																																																																																																																																																																																																			
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Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: OMNIBUS Operational & Safety Improvements (OSIP 1-91)

MODELS OF SYSTEM AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar

TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

Each ECP description includes the AV-8B configuration affected by the change and, if applicable, when it was introduced into production.

ECP-217, Emergency Battery Backup provides electrical power to the landing gear in the event of a major power failure. TAV-8B, Day. **ECP-246**, Canopy Restraint incorporates an improved pyrotechnic device to provide separation to the pilot on ejection - TAV-8B. **ECP-248**, Power Lever Angle Unit (PLAU) provides critical in-flight engine control, is being relocated from the engine bay to the cockpit to reduce the failure rate - TAV-8B, Day, Night, and FY99 & prior Radar. **ECP-251**, Nose Wheel Steering (NWS), a Safety change, provides improved pilot control over nose wheel steering responsiveness for critical landing conditions - TAV-8B, Night, FY96 & prior Radar. **ECP-254**, Inlet Guide Vane Controller (IGVC), a Safety change, provides improved -408 engine responsiveness during critical maneuvers - TAV-8B, Night, FY96 & prior Radar. **ECP-255R1**, Digital Flap Controller (DFC), a Safety change, provides improved flap control range and failure response during critical operations - TAV-8B, Day, Night, FY97 & prior Radar. **ECP-256**, Jet Pipe Temperature (JPT), a Safety change, eliminates the erroneous engine temperature returns - TAV-8B, Night, and FY96 & prior Radar. **ECP-257**, Digital Electronic Controller Unit (DECU), a Safety Change provides an improved power supply that corrects power interruptions during critical maneuvers - TAV-8B, Night, and FY96 & prior Radar. **ECP-269R1**, Frame 12, incorporates high vibration structural modifications to absorb increased vibrations which cause fatigue cracks - TAV-8B, Night & Radar. **ECP-271**, An improved mounting bracket for the 100% LERX structure reduces maintenance problems and improves readiness - Night, FY96 & prior Radar. **ECP-278**, installs more durable cables for the Radar Warning Radar system - Night, Radar. **C1.0 DSM** Modules, upgrades the AV-8B Mission Computer to a unified configuration - Day, Night, TAV-8B. **GEC-11**, adds a diode to the Cooling Engine Drive Electronics unit of the NAVFLIR, to prevent inadvertent shutdown due to power transients - Night & FY96 & prior Radar. NAVFLIR units plus spares. **GEC-2**, High Performance Head Amplifier in to the NAVFLIR to prevent inadvertent shutdown due to power transients - NAVFLIRs installed Night plus spares. **L580**, improved exhaust ducting of the GTS/APU eliminates cracking problem and improved availability - TAV-8B Day, Night & FY96 & prior Radar. **L-660**, upgrades the Protection Unit of the Gas Turbine Starter/Auxiliary Power Unit to prevent inadvertent system shutdowns during transient loads - all installed and spare GTS/APU units. **ECP-296**, replaces the radar warning receiver quadrant antennas with existing ALR-67 antennas for improved performance - Day, Night & Radar. **ECP-tbd**, integrates a Laser Spot Tracker to existing Navigation FLIR - Radar. **ECP-tbd**, replaces current arming solenoid with a Zero Retention Force solenoid to improve in-flight selectability and safe ordinance jettison - TAV-8B, Day, Night & Radar.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NWS flight test completed Feb 98. NWS & IGVC V&V completed third quarter FY-98. DFC and JPT V&V completed second quarter FY-98. DECU V&V completed first quarter FY-98 and incorporation initiated. Initial design/V&V of ECP-217 was completed in 2nd quarter FY-90 and a replacement battery was identified in 3rd quarter FY-97 to allow final installations. ECP-246 V&V scheduled to complete 2nd quarter FY-00. ECP-248 Flight Test scheduled for 2nd quarter FY-00. ECP-269R1 design completion is scheduled for 1st quarter FY-00. ECP-271 design/V&V was completed 3rd quarter FY-99. Installation reinitiated to complete modification program. ECP-278 design completed in 2nd quarter FY-99. L660 GTS/APU design was completed 2nd quarter FY-97 and rework initiated in 3rd quarter FY-97. L580 GTS/APU modification rework was completed in 4th quarter FY-97. GEC-11 modification was completed 4th quarter FY-97.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-217 (Emerg Battery) Kit	67	1.2																			67	1.2
ECP-246 (TAV Canopy Restraint) Kit			19	0.1																	19	0.1
ECP-248 (PLAU Resolver) Kit							54	1.2	48	1.1	48	1.1	27	0.6							177	4.0
ECP-251 (NWS) Kit	4	0.1	24	1.3	39	1.7	9	0.4	18	1.4											94	4.8
ECP-254 (IGVC) Kit	4		24	*	39	0.1	9	*	18	*											94	0.2
ECP-255R1 (DFC) Kit	2	*	78	0.1	78	0.2															158	0.3
ECP-256 (JPT) Kit	139	*																			139	*
ECP-257 (DECU) Kit	99	*			5	*	2	*													106	*
ECP-269R1 (Frame 12) Kit									11	0.2	17	0.2									28	0.4
ECP-271 (100%LERX) Kit	1		50	0.1																	51	0.1
ECP-278 (RWR Cable) Kit			1	*	36	0.2	36	0.2													73	0.4
C1.0 DSM Modules Kit	154	1.2																			154	1.2
GEC-11 (CEDE Unit) Kit	181	0.1																			181	0.1
GEC-002 (HPHA Unit) Kit	20	0.7	23	0.8																	43	1.5
L580 (GTS/APU Duct) Kit		*																			0	*
L660 (GTS/APU Protect Unit) Kit	74	0.2	144	0.7	111	0.3															329	1.2
ECP-296 (ALR-67 Antennas)					178	0.8															178	0.8
PRIOR YEARS	525	8.0																			525	8.0
Installation Kits N/R		2.0		1.3		1.7																5.0
Installation Equipment																						
ECP-248 (PLAU) Equip							54	0.1	48	0.1	48	0.1	27	0.1							177	0.4
ECP-255R1 (DFC) Equip	2	0.1	78	2.9	78	2.7															158	5.7
ECP-254 (IGVC) Equip			27	2.2	39	3.3	9	0.8	18	1.6											93	7.9
ECP-296 (ALR-67 Antennas)					178	0.7															178	0.7
ECP-tbd (NAVFLIR-LST)													17	3.6	21	3.7	9	1.8	39	7.4	86	16.5
ECP-tbd (ZRF SOLENOID)													91	1.8	39	0.8					130	2.6
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.8		0.5		0.7		*		*		0.7										3.7
Training Equipment		6.6		0.6		0.2		0.3		*		0.7										8.5
Support Equipment		2.2				0.2						0.7										3.0
ILS				0.2		0.1						0.1										0.5
Other Support		2.8		1.3		0.3		0.2		0.3		0.1		0.6		0.3		0.3				6.2
Interim Contractor Support																						
Installation Cost		0.6		0.9		0.7		3.0		5.8		6.0		3.4		2.3						22.6
TOTAL PROCUREMENT		27.7		13.0		13.9		6.2		10.5		9.6		10.0		7.1		2.1		7.4		107.6

Notes:

- Totals do not add due to rounding
- Asterisk indicates amount less than 50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar MODIFICATION TITLE: Operational & Safety Improvement Modifications

INSTALLATION INFORMATION: This reflects multiple ECP installations begun in FY-94. Quantities will not match Kit Procurement line due to "O" Level Installs, Contractor Warranty Kits (ECP-271 & ECP-269R1) & piece part attrition upgrades.

METHOD OF IMPLEMENTATION: Installation will be accomplished by Naval Aviation Depot drive in modification.

ADMINISTRATIVE LEADTIME: It varies with each ECP Months PRODUCTION LEADTIME: It varies with each ECP Months

CONTRACT DATES: FY 1998 Multiple FY 1999 Multiple FY 2000 Multiple FY 2001 Multiple

DELIVERY DATE: FY 1998 Multiple FY 1999 Multiple FY 2000 Multiple FY 2001 Multiple

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1997	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (768) kits	551	0.6	55	0.9	87	0.7	30	1.8	45	1.2											768	5.2
FY 1999 (223) kits					3	*	5	0.3	113	3.1	102	2.8									223	6.2
FY 2000 (116) kits							15	0.9	55	1.5	46	1.2									116	3.6
FY 2001 (113) kits											72	1.9	41	1.4							113	3.4
FY 2002 (65) kits													57	2.0	8	0.5					65	2.5
FY 2003 (27) kits															27	1.7					27	1.7
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	551	0.6	55	0.9	90	0.7	50	3.0	213	5.8	220	6.0	98	3.4	35	2.3					1312	22.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	551	14	14	13	14	22	23	22	23	12	13	12	13	53	53	53	54	55	55	55	55	24	25	24	25
Out	551	14	14	13	14	22	23	22	23	12	13	12	13	53	53	53	54	55	55	55	55	24	25	24	25

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	8	9	9	9						1312
Out	8	9	9	9						1312

Exhibit P-3a**INDIVIDUAL MODIFICATION**MODIFICATION TITLE: GLOBAL POSITIONING SYSTEM (OSIP 17-92)MODELS OF SYSTEM AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/RadarTYPE MODIFICATION: GPS**DESCRIPTION/JUSTIFICATION:**

The directed incorporation of GPS on the AV-8B presented a significant challenge due to the paucity of available airframe space. This issue was resolved by removing the AN/ARN -118 and replacing it with the miniaturized airborne GPS receiver and the mini-TACAN. Incorporation of this modification (ECP-168) provides improved aircraft position location accuracy through use of GPS Satellite technology with a significant improvement in Close Air Support operational effectiveness due to precise target location and fire control solutions. Day and night operations worldwide amplify the need for a navigational system with a high degree of accuracy like the GPS. This modification was incorporated into production in FY97 and is being retrofitted into all TAV-8B, AV-8B Day, AV-8B Night and AV-8B Night/Radar (FY96 & prior) aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/APN-153 (Mini TACAN) is an NDI item put in production by USATRADOC during FY 1989. The Miniaturized Airborne GPS Receiver (MAGR) was a separately funded item. Development and Operational Testing are complete and GPS functions were included in the Night Attack Operational Flight Program (OFP) released in January 1995. The Day Attack/TAV-8B OFP was released in April 1997 and the Combined Radar/Night Attack OFP was also released in April 1997.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E Element #64214N		1.1																				1.1
PROCUREMENT																						
Installation Kits																						
ECP-168 (GPS) Kit	175	10.1																			175	10.1
Installation Kits N/R		1.5																				1.5
Installation Equipment																						
ECP-168 (GPS) Equip	175	4.9																			175	4.9
Installation Equipment N/R		2.1																				2.1
Engineering Change Orders																						
Data		0.2																				0.2
Training Equipment		0.3																				0.3
Support Equipment		0.4																				0.4
ILS		0.2																				0.2
Other Support		3.2																				3.2
Interim Contractor Support																						
Installation Cost	121	1.1	40	0.4	14	0.3															175	1.8
TOTAL PROCUREMENT		23.8		0.4		0.3		*														24.5

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar MODIFICATION TITLE: GLOBAL POSITIONING SYSTEM (OSIP 17-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished by Naval Aviation Depot field mod teams.
NOTE: The MAGR is procured in Common Avionics OSIP 71-88.

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1999 _____ FY 2000 _____ FY 2001 _____

DELIVERY DATE: FY 1999 _____ FY 2000 _____ FY 2001 _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1997	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (175) kits	121	1.1	40	0.4	14	0.3															175	1.8
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	121	1.1	40	0.4	14	0.3															175	1.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	121	13	15	6	6	6	3	2	3																
Out	121	13	15	6	6	6	3	2	3																

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									0	175
Out									0	175

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE:Automatic Target Hand-Off System (ATHS) (OSIP 21-92)

MODELS OF SYSTEM AFFECTED:AV-8B Night, AV-8B Night/Radar

TYPE MODIFICATION:Upgrade

DESCRIPTION/JUSTIFICATION:

ECP-180 incorporates the ATHS, i.e., a digital data communications device which utilizes preformatted messages to communicate with standard USMC, USAF, and US Army digital communication devices. This modification supports improved performance in the areas of: (1) increased threat capabilities, (2) ground element transition to digital communications, (3) increased mission effectiveness and decreased pilot workload, (4) interoperability with USAF, USN, USMC, and US Army digital communication systems and (5) provide for eventual growth capability into voice activated crew station systems. This modification was introduced in production in FY97 and is being retrofitted in all AV-8B Night and AV-8B Night/Radar (FY96 & prior) aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ATHS is currently installed in the US Army OH-58 and AH-64 Apache helicopters and has been in full production for several years. The ATHS was designed for MIL-E-5400, Class I, helicopter applications. Design of the modification required to bring ATHS up to Class II TACAIR standards and to increase the data rate is complete. Flight demonstration was conducted in an AV-8B in November 1990. Hardware qualification testing was completed in November 1994 and DT flight testing of the ATHS software algorithms was completed in December 1994. A FOFAC (Forward Observer Forward Air Controller) demonstration with MAWTS-1 (Marine Aviation Weapons & Tactics Squadron) occurred in February 1995. Preliminary operational testing was conducted in November 1995. Final DT/OT confirmed the software integration into the combined Night Attack & Radar Operational Flight Program released in June, 1997.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-180 (ATHS) Kit	43	2.1	20	0.7	12	0.4	15	0.5													90	3.8
Installation Kits N/R		8.5																				8.5
Installation Equipment																						
ECP-180 (ATHS) Equip	43	2.0	20	0.8	12	0.5	15	0.6													90	3.8
Installation Equipment N/R		5.7																				5.7
Engineering Change Orders																						
Data																						
Training Equipment		*																				*
Support Equipment																						
ILS		*																				*
Other Support									0.2													0.2
Interim Contractor Support																						
Installation Cost	11	0.2			12	0.9	41	2.9	23	1.7	3	0.2									90	5.9
TOTAL PROCUREMENT		18.6		1.5		1.7		4.1		1.9		0.2										28.0

Notes:

1. Totals do not add due to rounding

2. Asterisk indicates amount less than 50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: AV-8B Night, AV-8B Night/Radar MODIFICATION TITLE: Automatic Target Hand-Off System (ATHS) (OSIP 21-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished by Naval Aviation Depot by drive-in mod.
Assumes concurrent installation with OSIP 23-92 (ARC-210)

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 15 Months

CONTRACT DATES: FY 1998 Dec-97 FY 1999 Jun-99 FY 2000 Dec-99 FY 2001

DELIVERY DATE: FY 1998 Feb-99 FY 1999 Sep-00 FY 2000 Mar-01 FY 2001

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (63) kits	11	0.2			12	0.9	40	2.8													63	3.9
FY 1999 (12) kits							1	0.1	11	0.8											12	0.9
FY 2000 (15) kits									12	0.9	3	0.2									15	1.1
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	11	0.2			12	0.9	41	2.9	23	1.7	3	0.2									90	5.9

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	11							3	9	10	11	11	9	6	6	6	5	2	1						
Out	11							3	9	10	11	11	9	6	6	6	5	2	1						

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									0	90
Out									0	90

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: AN/ARC-210 Electronic Protection (EP) Combination Radio (OSIP 23-92)MODELS OF SYSTEM AFFECTED: AV-8B Night, AV-8B Night/RadarTYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

ECP-240 incorporates the AN/ARC-210, i.e., a combination UHF/VHF AM/FM jam-resistant radio developed as common avionics to allow for EP inter-operability with the Air Force, Army, and NATO, into the AV-8B. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK and the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS. This modification was introduced in production in FY97 and is being retrofitted in all AV-8B Night and AV-8B Night/Radar (FY96 & prior) aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The non-recurring engineering integration contract to MCAIR was awarded in June 1994. Demonstration/Validation began in February 1996 and was completed September 1996 in conjunction with the combined Night Attack/Radar Operational Flight Program (C1.0) released in May 1997. Incorporation of the ARC-210 HAVEQUICK and SINCGARS capability will be completed with the OC1.2 software release in FY 2003.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-240 (ARC-210) Kit	40	0.4	23	0.2	19	0.2	8	0.1													90	0.9
Installation Kits N/R		2.8																				2.8
Installation Equipment																						
ECP-240 (ARC-210) Equip																						
ECP-289 (ACNIP) Equip		0.4									140	0.7									140	1.1
Installation Equipment N/R				1.5		0.9		0.3														2.7
Engineering Change Orders																						
Data		0.2						0.1														0.3
Training Equipment		*						0.7														0.8
Support Equipment								0.2														0.2
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost	2	0.1	7	0.2	12	0.4	41	1.6	24	0.9	4	0.2									90	3.3
TOTAL PROCUREMENT		3.9		1.9		1.4		3.0		0.9		0.9										12.1

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

AV-8B Night, AV-8B Night/Radar

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Installation by Naval Aviation Depot (NADEP) Drive-in Mod (2 radios per aircraft). Installation requires engine removal which is budgeted in and requires concurrent installation with OSIP 21-92 (ATHS).
NOTE: B-kits and common logistics requirements are funded in the AN/ARC-210 Common Avionics OSIP 4-94.

ADMINISTRATIVE LEADTIME:

3Months

PRODUCTION LEADTIME:

16Months

CONTRACT DATES:

FY 1998Dec-97

FY 1999Jun-99

FY 2000Jan-00

FY 2001

DELIVERY DATE:

FY 1998Jun-99

FY 1999Oct-00

FY 2000May-01

FY 2001

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (63) kits	2	0.1	7	0.2	12	0.4	41	1.6	1	*											63	2.3
FY 1999 (19) kits									19	0.7											19	0.7
FY 2000 (8) kits									4	0.2	4	0.2									8	0.3
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	2	0.1	7	0.2	12	0.4	41	1.6	24	0.9	4	0.2									90	3.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2		3	3	1			3	9	10	11	11	9	6	6	6	6	3	1						
Out	2		3	3	1			3	9	10	11	11	9	6	6	6	6	3	1						

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									0	90
Out									0	90

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Horizontal Stabilator Fatigue Improvements (OSIP 34-93)

MODELS OF SYSTEM AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar TYPE MODIFICATION: Structural

DESCRIPTION/JUSTIFICATION:

Between November 1992 and February 1993 T/AV-8B operators reported 35 incidents of cracking in stabilator center section aluminum alloy ribs and spars. McDonnell Douglas Aerospace Corp. (MDA) has defined a new stabilator center section that changes the structural material to titanium alloy, provides selective material gage increases and changes stabilator pivot fittings from titanium alloy to steel. These changes were incorporated in FY 1991 production aircraft Cum 241 and subsequent. This OSIP provides for the design, test and procurement of an ECP-243R1 airframe change kit for retrofit of the new stabilator center section in all 223 in-service T/AV-8B aircraft and installation into all spare stabilators.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development is not required. Basic engineering and design are complete. Contractor laboratory testing and Contractor/Navy flight testing of the modified stabilator was completed in September 1994. Validation and verification of a production representative aircraft change kit and technical directive by the NADEP was completed in May 1993.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-243R1 (Horiz Stab) Kit	207	10.9			16	0.6															223	11.5
Installation Kits N/R																						
Installation Equipment																						
ECP-243R1 (Horiz Stab) Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		*																				*
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		0.2																				0.2
Interim Contractor Support																						
Installation Cost	203	5.2	13	0.4	11	0.3	14	0.5	8	0.2											249	6.7
TOTAL PROCUREMENT		16.3		0.4		0.9		0.5		0.2												18.4

Notes:

1. Totals do not add due to rounding

2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar MODIFICATION TITLE: HORIZONTAL STABILATOR FATIGUE IMPROVEMENTS (OSIP 34-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: The first kit was provided at no cost to the government. The installation is being accomplished by Navy Drive-in Modification.

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 1998 FY 1999 Jan-99 FY 2000 FY 2001

DELIVERY DATE: FY 1998 FY 1999 Sep-99 FY 2000 FY 2001

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (207) kits	203	5.2	13	0.4	11	0.3	6	0.2													233	6.2
FY 1999 (16) kits							8	0.3	8	0.2											16	0.5
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	203	5.2	13	0.4	11	0.3	14	0.5	8	0.2											249	6.7

**NOTE: Installation includes 26 spare stabilators.

Installation Schedule

	1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	203	3	3	3	4	3	3	3	2	3	4	3	4	2	2	2	2								
Out	203	3	3	3	4	3	3	3	2	3	4	3	4	2	2	2	2								

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										249
Out										249

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Aircraft Life Extension Program (ALEP) (OSIP 16-94)MODELS OF SYSTEM AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/RadarTYPE MODIFICATION: Obsolesence

DESCRIPTION/JUSTIFICATION:

ALEP was required to develop S,R&M modifications resolving known problems with critical life pacing items such as landing gear, their supporting airframe structure and other life limiting components (stabilator, vertical tail). The specification for the Harrier II calls out that the aircraft will have 6,000 service hours fatigue life but usage has given an approximate life of 11,000 service hours for the wing structure. During the landing gear service life assessment program, the service life of the landing gear components increased 2 to 3 fold and back-up structure service life increased to at least the Remanufacture specification life of 9,500 service hours. Other life limited structures (such as the stabilator, vertical tail and flaps) have become critical to track the service life. Additional teardown of high time fuselage and test article structures and analysis will increase the life of the airframe. The initial ALEP OSIP supported these life extension initiatives through actual fleet data analysis and component fatigue testing. This work has been transferred to an R&D initiative beginning in FY-99. However, completion of the development, procurement and installation ("O" Level) of Video Fatigue Data Recorder (VFDR) ECP CHPT-29) was retained under this OSIP. This modification will improve current on-board video data collection and enhance operational effectiveness of the aircraft. This modification will be retrofitted into all AV-8B configurations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Fatigue life analysis initiative shifted to RDT&E,N effective FY-99. VFDR Design was initiated in 1st quarter FY-98 and V&V was completed 1st quarter FY-99.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP CHPT-29 Kit			199	0.1																	199	0.1
Installation Kits N/R		8.3		1.1																		9.3
Installation Equipment																						
VFDR	209	1.1																			209	1.1
Installation Equipment N/R		0.5																				0.5
Engineering Change Orders																						
Data				0.1																		0.1
Training Equipment		*																				*
Support Equipment																						
ILS		0.1																				0.1
Other Support				0.1																		0.1
Interim Contractor Support																						
Installation Cost																						
TOTAL PROCUREMENT	209	10.1		1.3																		11.4

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a		INDIVIDUAL MODIFICATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
MODIFICATION TITLE: <u>KAPTON Wire Replacement (OSIP 3-96)</u>																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
MODELS OF SYSTEM AFFECTED: <u>TAV-8B</u>											TYPE MODIFICATION: <u>Safety</u>																																																																																																																																																																																																																																																																																																																																																																																																																																																														
<p>DESCRIPTION/JUSTIFICATION:</p> <p>The Kapton Wiring Replacement (ECP-277) S,R&M modification is required to replace the MIL-W-81381 (KAPTON) wiring with MIL-W-22759 (TEFZEL) wiring in TAV-8B aircraft delivered prior to September 1989. TAV-8B's with KAPTON (MIL-W-81381) insulated wire suffer from high failure rate due to frequent incidents of chafing resulting in wire fires. The KAPTON (MIL-W-81381) wired airplanes also require frequent and costly maintenance actions to continue flying. Replacement of this wiring is expected to improve aircraft readiness. This modification was introduced in production in FY 1989 TAV-8B aircraft cum 16 & subsequent which deleted the KAPTON (MIL-W-81341) insulated wiring and replaced it with irradiated TEFZEL wiring which is much more resistant to chafe and fire. This modification will be retrofitted in 12 of the 13 TAV-8B aircraft (cum 15 & below) currently in the inventory.</p> <p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:</p> <p>This modification was designed and incorporated in all production baseline aircraft delivered after September 1989. AFP not applicable. An installation validation is scheduled to commence in April 2000.</p> <p>FINANCIAL PLAN (TOA, \$ in Millions):</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Prior Years</th> <th colspan="2">FY 1998</th> <th colspan="2">FY 1999</th> <th colspan="2">FY 2000</th> <th colspan="2">FY 2001</th> <th colspan="2">FY 2002</th> <th colspan="2">FY 2003</th> <th colspan="2">FY 2004</th> <th colspan="2">FY 2005</th> <th colspan="2">To Complete</th> <th colspan="2">TOTAL</th> </tr> <tr> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> </tr> </thead> <tbody> <tr> <td>RDT&E</td> 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Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

TAV-8BMODIFICATION TITLE: KAPTON Wire Replacement (OSIP 3-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

AFC installation will be accomplished by Naval Aviation Depot Drive-in Mod.

ADMINISTRATIVE LEADTIME:

5 Months

PRODUCTION LEADTIME:

24 Months

CONTRACT DATES:

FY 1998 Apr-98FY 1999 Jul-99FY 2000 Mar-00

FY 2001 _____

DELIVERY DATE:

FY 1998 Dec-99FY 1999 Jul-01FY 2000 Mar-02

FY 2001 _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (5) kits							3	2.9	2	1.3											5	4.2
FY 1999 (4) kits									1	0.6	3	1.9									4	2.6
FY 2000 (3) kits											3	1.9									3	1.9
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							3	2.9	3	1.9	6	3.9									12	8.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0									1		1	1		1		2	2	2	1	1				
Out	0											1	1		1			1	2	2	2	1	1		

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									0	12
Out									0	12

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Mission Planning (OSIP 23-99)MODELS OF SYSTEM AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/RadarTYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

Update of current AV-8B Mission Support System (MSS) and transition to the Joint Mission Planning System (JMPS) is required as part of the DON directed migration to a common Navy and Marine Corps mission planning system. Updates of legacy systems will: eliminate old and proprietary software incompatible with JMPS, introduce portable flight planning system based operators station software and develop the unique planning component required for conversion to JMPS. JMPS is used to develop, analyze, store and download mission planning data into the AV-8B. Conversion to JMPS will improve mission and strike planning data using threat intelligence, smart weaponeering, mission rehearsal/replay, target area analysis and visualization tools. It will also provide reliable route development, aircraft mission and map loading, logical and user friendly interface, in an expeditionary laptop.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

AV-8B Mission Planning will involve a phased conversion to JMPS starting with upgrade of the current Mission Support System into a portable flight planning system based operators station and Unique Planning Component (UPC) software in December 2002. The full JMPS transition will be complete with the release of the UPC accompanying the OC1.3 OFF release in FY-03. The objectives for FY-03 is to complete the last phase(build 5) JMPS software testing, conduct DT/OT and then deliver JMPS to the fleet.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP TBD (Msn Plan) Kit																						
Installation Kits N/R																						
Installation Equipment																						
ECP TBD (Msn Plan) Equip																						
Installation Equipment N/R						0.1		0.8		0.3		0.4		0.2								1.7
Engineering Change Orders																						
Data						0.2		0.2		0.4		0.3		0.4								1.5
Training Equipment									0.1		*		*									0.1
Support Equipment																						
ILS																						
Other Support						1.3		0.3		2.2		1.8		2.0								7.5
Interim Contractor Support									*				0.1									0.2
Installation Cost																						
TOTAL PROCUREMENT						1.6		1.2		3.0		2.4		2.7								10.9

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: TAV-8B Performance Upgrade (OSIP 25-99)

MODELS OF SYSTEM AFFECTED: TAV-8B

TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:
Update all AV-8B Trainer aircraft to better align with operational aircraft by incorporating Night Vision Goggle (NVG) lighting and the -408A engine. ECP-276 (NVG lighting) incorporation will allow for training of fleet pilots in NVG tactical flight operations during initial AV-8B flight training under the supervision of an instructor pilot. Currently, all NVG training is performed in the operational squadrons in single piloted aircraft after completion of initial pilot training. Early increase in pilot NVG proficiency and safer training environment. Improves configuration standardization with current Night/Radar NVG compatible components. ECP-276 will be installed on 18 of 19 aircraft currently in the inventory. The -408A engine is not thrust limited to the extent of the current -406A/B engines. ECP-275 (-408 Engine) provisions incorporation will allow expansion of VSTOL training time and increase the vertical landing performance safety margin by 2,000 pounds of thrust. Additionally, initial pilot training will be at the same performance levels experienced in the operational squadrons. Configuration consistency between Trainer and fleet Night/Radar aircraft will also be enhanced. Trainer aircraft cum T16 and above have -408 provisions incorporated and require engines only. Trainer aircraft cum T1 through T15 require both aircraft provision kits and engines. ECP-275 will be installed on 12 of the 13 T15 & below aircraft currently in the inventory. ECP-288 will field a modified Operational Flight Program to support the full -408A engine capabilities. Frame 12 fatigue life extension modification will be installed on all TAV-8B aircraft concurrently with ECP-275.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Initial design of the NVG and -408A aircraft kits will begin in November 1998. Engine provisioning software development (ECP-288) was initiated in November 1998.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 275 (-408 Engine) Kit (T2-15)					8	3.1	2	0.8	2	0.8											12	4.7
ECP 276 (NVG) Kit (T2-24)					5	2.9	5	2.9	8	4.8											18	10.6
IAFC-398 (Fr 12) Kit (T2-24)					5	0.2	5	0.2	2	0.1											12	0.5
Installation Kits N/R						1.9				0.4												2.3
Installation Equipment																						
ECP 275 (Engines) Equip (T2-15)					8	27.5	2	6.8	2	7.4											12	41.7
ECP 275 (Engines) Equip (T16-24)					6	20.4															6	20.4
ECP 275 (FFT) Equip (T2-15)					8	0.1	2	*	2	*											12	0.2
ECP 275 (EPI) Equip (T2-15 2 per A/C)					16	0.3	4	0.1	4	0.1											24	0.4
ECP 075 (EMU) Equip (T2-24)					5	0.3	5	0.3	8	0.4											18	0.9
ECP 075 (DSU) Equip (T4-24)							4	0.5													4	0.5
ECP 288 Mission & Warfare Mgmt Computers (T2-24)											18	6.4									18	6.4
ECP 291 NA Disp Computers (T 2-24)											18	2.2									18	2.2
ECP 291 Throttle Grips (T2-24)											18	0.5									18	0.5
Installation Equipment N/R																						
Engineering Change Orders																						
Data						1.3				0.3												1.6
Training Equipment						0.2				1.8												2.0
Support Equipment								*		0.1		0.9										1.0
ILS								0.3														0.3
Other Support: ECP-288						1.9		2.8		2.9		1.4		0.3								9.3
Interim Contractor Support																						
Installation Cost									9	1.3	21	1.8	18	1.2							48	4.3
TOTAL PROCUREMENT						60.1		14.7		20.4		13.3		1.4								109.8

Notes:
1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:	TAV-8B	MODIFICATION TITLE: TAV-8B Performance Upgrade (OSIP 25-99)
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INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: AFC installation will be accomplished by Naval Aviation Depot Drive-in Mod. ECP-275 will be installed concurrent with ECP-276 on aircraft cum T-15 & below.

ADMINISTRATIVE LEADTIME:	<u>Varies for each ECP</u>	PRODUCTION LEADTIME:	<u>Varies for each ECP</u>
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CONTRACT DATES:	FY 1998 _____	FY 1999 _____ Various _____	FY 2000 _____ Various _____	FY 2001 _____ Various _____
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DELIVERY DATE:	FY 1998 _____	FY 1999 _____ Various _____	FY 2000 _____ Various _____	FY 2001 _____ Various _____
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(\$ in Millions)

Cost:		Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																							
FY 1999 (18) kits										9	1.3	9	0.8									18	2.1
FY 2000 (12) kits												12	1.0									12	1.0
FY 2001 (18) kits														18	1.2							18	1.2
FY 2002 () kits																							
FY 2003 () kits																							
FY 2004 () kits																							
FY 2005 () kits																							
To Complete () kits																							
TOTAL										9	1.3	21	1.8	18	1.2	0		0		0		48	4.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0														3		6	6	6	3	6	3	7	4	4
Out	0																	3	6	6	6	3	6	10	4

[illegible]

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: SJU-4 Escape System Performance Upgrade (OSIP 18-00)

MODELS OF SYSTEM AFFECTED: All T/AV-8B Aircraft (TAV-8B, AV-8B Day, AV-8B Night, AV-8B Radar).TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The AV-8B escape system was originally designed to provide safe escape for aircrew within the unique flight regime of the Harrier aircraft. At the time of development an increase in physiological loads on the aircrew at moderate and high speed ejections were traded-off for higher ejection performance at low altitude and adverse attitude. A number of aircrew have sustained severe neck injuries and a fatality have resulted from parachute opening shock and poor body position/alignment at moderate and high speed ejections. Warnings and restrictions have been placed on the escape system until design deficiencies have been corrected This modification supports an escape system upgrade program to investigate, design, develop, and test the adaptation of current escape technologies to reduce the risk of injury to aircrew for the entire escape envelope. Trade studies have identified the most promising mature escape technologies, including a new restraint, parachute, and improved speed sensing.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NAVAIR completed trade studies in October 98. Program initiation, receipt of R&D funding, and contract award occurred May 99. Component/subsystem testing, August 99. FY00 procurement of 5 units will be used for validation & verification purposes. DT-I will commence in Mar 00 and DT-II will complete in December 00.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E ELEMENT# 0604264N				13.4		15.2		14.2		17.5		18.3		12.0		11.7		12.4				
PROCUREMENT																						
Installation Kits							5		87		120										212	
Installation Kits N/R																						
Installation Equipment							5	0.1	87	1.3	120	1.8									212	3.1
Installation Equipment N/R																						
Engineering Change Orders								0.4														0.4
Data								0.6	*													0.6
Training Equipment								0.5	0.1													0.6
Support Equipment																						
ILS								0.2														0.2
Other Support									0.2		0.1											0.3
Interim Contractor Support											0.1		0.1									0.2
Installation Cost																						
TOTAL PROCUREMENT								1.8	1.6		1.9		0.1									5.3

Notes:

1. Totals do not add due to rounding

2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE:

LITENING II Pod (23-00)

MODELS OF SYSTEM AFFECTED:

AV-8B Night, AV-8B Night/Radar

TYPE MODIFICATION:

Upgrade

DESCRIPTION/JUSTIFICATION:

The system will integrate and procure an external targeting pod that includes an Infrared (IR) and low-light TV targeting device capable of detecting, classifying, auto-tracking, and designating air-to-surface targets. The system will support first-pass autonomous delivery of conventional, precision guided, and accurate munitions to include Laser Maverick, GBU-12 and GBU-16. The system will provide targeting capabilities for the AV-8B fleet of Night Attack and Radar/Night attack aircraft through the end of it's service life. The addition of the LITENING II Targeting Pod gives the AV-8B (Night and Radar) the capability to perform precision targeting.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Targeting Pod is a non developmental item and has been in full production for several years. It was a winner of a targeting FLIR competition for the Air Force Reserve and Air National Guard and will be in service of their F-16s by 2nd Qtr FY-00. The design, integration, and testing of the Targeting Pod for the AV-8B will be done on the Radar and /or Night Attack during 3rd Qtr FY-00. The integration will utilize: existing aircraft software, a weapons station adapter, and Targeting Pod interface software. PEO(A) had approved the acquisition strategy to acquire the pods through an existing USAF contract to provide a targeting pod capability to the Fleet by 1st Qtr FY-01.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits, ECP-tbd Pod Provisions							15	0.2													15	0.2
Installation Kits N/R								0.5														0.5
Installation Equipment, Pods							9	9.8													9	9.8
Installation Equipment N/R								1.0														1.0
Engineering Change Orders								0.1														0.1
Data								0.3														0.3
Training Equipment								0.1														0.1
Support Equipment								0.2														0.2
ILS								*														*
Other Support								3.9														3.9
Interim Contractor Support								*														*
Installation Cost																						
TOTAL PROCUREMENT							16.0															16.0

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

EXHIBIT P-40, BUDGET ITEM JUSTIFICATION								DATE:		February 2000		
APPROPRIATION/BUDGET ACTIVITY								P-1 ITEM NOMENCLATURE				
Aircraft Procurement, Navy/APN-5 Aircraft Modifications								F-14 Series Modifications				
Program Element for Code B Items:								Other Related Program Elements				
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY												
COST (In Millions)	810.6	A	275.4	209.4	82.8	30.5	4.7	3.6				1,417.0
This line item funds modifications to the F-14 aircraft. The F-14 is a twin-engine, two seat, variable sweep, supersonic strike fighter capable of engaging multiple targets simultaneously at altitudes from sea level to 80,000 feet. The overall goal of the modifications budgeted in FY 2001 is to maintain the F-14 as a viable warfighting platform with structural improvements to the airframe ensuring its continued integrity, the incorporation of a number of safety and modernization improvements, upgrades to the F-14B series aircraft to improve and extend its useful life, the inclusion of a comprehensive precision strike fighter capability for fleet long range high payload strike missions. The FY 2001 decreases reffects a \$321 thousand decrease for revised economic assumptions. The specific modifications budgeted and programmed are:												
(TOA, \$ in Millions)												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Complete	To Total
152-83	Structural Improvements	243.5	55.5	44.0	15.0	4.4	4.3	3.6				370.3
33-92	Structural /Survivability Block Upgrade	341.3	54.9	31.4	11.6							439.2
12-94	Digital Flight Control	38.5	32.3	20.9	7.5							99.1
31-94	GPS/Embedded GPS	28.7	17.9	9.2	3.1							58.9
42-95	Precision Strike Program	158.5	107.6	88.7	32.6							387.4
20-96	F-14 Critical Systems & Component Modernization		7.2	15.1	13.2	26.1	0.4					62.0
Total		810.6	275.4	209.4	82.8	30.5	4.7	3.6				1,417.0
Note: Totals may not add due to rounding.												

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Structural Improvements (OSIP 152-83)MODELS OF SYSTEMS AFFECTED: F-14A/B/DTYPE MODIFICATION: Structural Life Extension/Safety/Reliability

DESCRIPTION/JUSTIFICATION: A full scale test on F-14 "Aircraft 98" mounted test rig at Grumman, Bethpage was concluded in 1995. The goal of the fatigue test was 18,000 hours, approximately equivalent to 9,000 hours flight time. A total of 17,349 test hours were completed. The point at which structural ECP'S are initiated depends upon the type of failure discovered in testing and its location in the aircraft structure. When a critical load path involving safety is compromised, a determination is made as to how many flight hours can be flown before aircraft become structurally u to fly. Various fatigue analysis models, plus Aircraft 98 Test Data, determine the point at which flying must stop and repairs be performed in order to reach or extend the aircraft fatigue life. All modifications are based on the results of such tests. The primary structural improvements in the OSIP are at 5,000, 7,000, and 9,000 hour Time Compliance Requirements. This OSIP also includes follow-on outer wing panel fatigue testing, wire fatigue testing, and several other airframe modifications: FS 353 Frame Replacement, Back-up Flight Control, TF-30 Breather Pressure, PHOENIX Fairing Latches, 2 Outer Wing Panel Leading Edge Repairs, Remanufacture F-14B(KB, KM) and F-14D(r) Door reconfiguration, as well as associated NRE for which kits will be bought in OSIP 20-96. Outer Wing Panel Testing at 8316 hours of testing has identified a new crack in the front spar web at Slat Station #2, which also dictates the added requirement for partial 9K kits to be procured in FYC

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Northrop-Grumman Aerospace Corporation completed fatigue tests to provide failure data. The ECP's procured under OSIP 152-83 are to support those aircraft that require various Time Compliance Requirements (TCR). 5,000 Hour TCR (5K TCR) incorporates ECP-1225 (AFC-776) and ECP-1227 (AFC-790, AFC-837). 7,000 Hour TCR (7K TCR) is ECP-1243 (AFC-802). 9,000 Hour TCR (9K TCR), ECP-1287 AFC-875, is being designed, tested and procured with AFC in development. The TCR's are also expressed in percent of Fatigue Life Expended (FLE). All F-14's required to sustain inventory requirements will receive 5K TCR's. F-14B's and F-14D's will receive 7K and 9K TCR's. These corrections will be performed concurrently, whenever possible, to minimize installation costs.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
5K Kits, ECP 1225/1227	301	32.0	29	6.7	3	0.7	2	0.5													335	39.8
F-14D 7K Kits, ECP 1243	43	14.3	9	0.9	2	0.2	2	0.2	2	0.2											58	15.8
9K Kits, ECP 1287	2	1.0	18	10.8	10	8.1	12	1.0													42	20.9
TCR Fuel Cells	50	0.2																			50	0.2
ECP-305 BUFCOM Part 1 Kits	200	0.1																			200	0.1
ECP-276 BUFCOM Part 11 Kits					145	0.1															145	0.1
AFC-859 Bulk Material, ECP 1285	200	0.2																			200	0.2
ECP 1285 PT II WING CRACK							200	0.2													200	0.2
Wing Crack III									10	*	190	0.1									200	0.2
ECP-304 F.S. 353 Frame Kits	95	0.3	99	0.3																	194	0.7
TF-30 Breather Pressure **	169	2.1			136	0.8															305	2.8
Phoenix Fairing Kits, ECP Pending	50	*																			50	0.0
Door Reconfiguration					10	0.1	33	0.3													43	0.4
Rudder Servo, ECP 279	288	1.0																			288	1.0
FEMS Engine Diagnostic	20	0.4																			20	0.4
AFC-737, ECP 147 5K Partial	50	0.2																			50	0.2
Other Prior Year Kits		47.5																				47.5
Installation Kits N/R		38.5		3.2		11.7																53.4
Installation Equipment																						
Auxiliary Hardware		0.2		0.5		0.4		0.8														2.0
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.1		0.3		0.3		0.1														1.9
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		2.1		1.8		6.5		0.9		1.8		1.7		1.6								16.3
Interim Contractor Support																						
Installation Cost	560	102.2	256	30.8	193	15.2	196	11.0	62	2.4	104	2.5	191	2.0							1,562	166.1
Total Procurement		243.5		55.5		44.0		15.0		4.4		4.3		3.6								370.3

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Double Asterisk indicates O/I Level Install - No P3a Install Schedule Attached

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/DMODIFICATION TITLE: Structural Improvements (OSIP 152-83) ECP-1225/1227/1243/1287 (5K, 7K, 9K KITS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP & commercial depot concurrent with SDLM: NADEP and contractor field mod. teams (FMT); drive-in mods. (DIM), organizational and intermediate level installs.ADMINISTRATIVE LEADTIME: 7 MonthsPRODUCTION LEADTIME: 11-16 MonthsCONTRACT DATES: FY 1998: 04/98 FY 1999: 04/99 FY 2000: 4/00 FY 2001: 4/01DELIVERY DATE: FY 1998: 03/99 FY 1999: 03/00 FY 2000: 3/01 FY 2001: 3/02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (347) kits	295	99.7	30	26.0	15	10.8	7	4.0													347	140.5
FY 1999 (15) kits							8	5.5	6	1.6	1	0.2									15	7.3
FY 2000 (16) kits									12	0.3	4	1.2									16	1.5
FY 2001 (2) kits											1	0.2	1	0.6							2	0.8
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	295	99.7	30	26.0	15	10.8	15	9.5	18	1.9	6	1.6	1	0.6							380	150.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	295	7	6	7	10	5	5	3	2	4	3	4	4	1	6	6	5	1	2	1	2	1			
Out	281	4	3	3	4	7	5	5	7	1	7	6	7	4	6	6	6	6	2	1	2	1	2	1	3

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										380
Out										380

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: Structural Improvements OSIP (152-83)/ECP-1285 (MATL)/ECP-305 (BUFCOM)/ECP-276 (BUFCOM) PT II

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP & commercial depot concurrent with SDLM; NADEP and contractor field mod. team (FMT); drive-in mods. (DIM), organizational and intermediate level installs.**ADMINISTRATIVE LEADTIME: **1 - 4 Months**PRODUCTION LEADTIME: **1 - 6 Months**CONTRACT DATES: FY 1998: _____ FY 1999: **10/98** FY 2000: _____ FY 2001: _____DELIVERY DATE: FY 1998: _____ FY 1999: **11/98** FY 2000: _____ FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (400) kits	240	1.9	136	2.2	24	1.0															400	5.1
FY 1999 (145) kits					65	0.3	80	0.4													145	0.7
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	240	1.9	136	2.2	89	1.3	80	0.4													545	5.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	240	36	34	34	32	10	10	36	33	40	40														
Out	240	36	34	34	32	10	10	6	30	33	40	40													

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										545
Out										545

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/DMODIFICATION TITLE: Structural Improvements (OSIP 152-83) ECP-304 (F.S. 353 FRAME KITS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP & commercial depot concurrent with SDLM; NADEP and contractor field mod. teams (FMT); drive-in mods.ADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 8 MonthsCONTRACT DATES: FY 1998: 02/98 FY 1999: FY 2000: FY 2001: DELIVERY DATE: FY 1998: 10/98 FY 1999: FY 2000: FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (194) kits	25	0.6	90	2.6	79	3.0															194	6.2
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	25	0.6	90	2.6	79	3.0															194	6.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	25	23	22	23	22	23	22	23	11																
Out		7	6	6	6	23	22	23	22	23	22	23	11												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										194
Out										194

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/DMODIFICATION TITLE: Structural Improvements (OSIP 152-83) Door Reconfiguration

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP & commercial depot concurrent with SDLM; NADEP and contractor field mod. team (FMT); drive-in mods. (DIM), organizational and intermediate level installs.ADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 4 MonthsCONTRACT DATES: FY 1998: _____ FY 1999: 3/99 FY 2000: 10/99 FY 2001: _____DELIVERY DATE: FY 1998: _____ FY 1999: 7/99 FY 2000: 2/00 FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (10) kits					10	0.1															10	0.1
FY 2000 (33) kits							33	0.3													33	0.3
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					10	0.1	33	0.3													43	0.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										10		16	17												
Out										10		16	17												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										43
Out										43

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/DMODIFICATION TITLE: Structural Improvements (OSIP 152-83) WING CRACK II/III (ECP-1285 PT II)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP & commercial depot concurrent with SDLM; NADEP and contractor field mod. team (FMT); drive-in mods. (DIM), organizational and intermediate level installs.ADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 4 MonthsCONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: 3/00 FY 2001: 3/01DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: 7/00 FY 2001: 7/01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (200) kits							68	0.7	44	0.6	88	0.9									200	2.1
FY 2001 (10) kits											10	0.1									10	0.1
FY 2002 (190) kits													190	1.4							190	1.4
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							68	0.7	44	0.6	98	0.9	190	1.4							400	3.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													68	11	11	11	11	22	22	22	32	50	50	50	40
Out												24	44	11	11	11	11	11	22	22	22	32	50	50	50

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										400
Out	40									400

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: F-14A/B Structural Maintenance and Survivability Block Upgrade (OSIP 33-92)MODELS OF SYSTEMS AFFECTED: F-14A/BTYPE MODIFICATION: Life Extension/Structural Upgrade

DESCRIPTION/JUSTIFICATION: Cancellation of F-14D(R) program also canceled inclusive airframe line extension mods. A Block Upgrade Program is vital to maintaining an F-14 inventory capable of supporting planned CVW force structure through the year 2010. The program provides structural upgrade of 67 F-14B series aircraft, extends useful life, and procures and installs selected Time Compliance Requirements (TCR) kits. Initial production commenced in FY 1994 following the first phase of flight testing. The upgrade addresses Desert Storm lessons learned by incorporating threat countermeasure enhancements in the form of the ALR-67 Radar Warning Receiver and BOL Chaff modification as well as including conversion of basic weapon control components and displays to the MIL-STD-1553B bus digital architecture. This architecture provides for direct distribution of threat warning to "smart" self defense dispensing systems (ALE-39), provides the flight crew with enhanced display of threat information and reduces the cost of future installation of advanced weapons and weapon control components. Included in the block upgrade is the selective replacement of highly flammable "KAPTAN" wiring with MIL-W-22759 series wiring. NRE for ECP's covering AWG-9, VDIG and throttle quadrant is also included in FY97. These three ECP's are now covered in OSIP 20-96 from FY 98 and out.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The upgrade program installs equipment which is either in production, has completed development or employs components derived from existing equipment. Many of the modifications are included in current OSIP's. The block upgrade provides for integrated installation of these current OSIP items plus additional equipment required to fulfill operational needs. Specifically, the structural modifications are derived from OSIP 152-83; the ALR-67 installations are derived from OSIP 2-91. The development of Programmable Tactical Information Display (PTID), the AWG-15H weapon control unit, and the Programmable Multiple Display Indicator Group (PMDIG) is complete and are being flown in test programs. The Bol/Chaff system has completed OPEVAL and is designed to be installed in all F-14 Upgrade Aircraft. The hybrid CP2213 computer uses a computing sub-system derived directly from the AYK-14 (XN-8), a computer whose development is complete. System integration and demonstration also includes flight tests at PMTC which began in August 1994. System integration and test, validation of software and release of programs are on schedule with Product Acceptance Test and Evaluation (PAT&E) successfully completed in June 1997. Time Compliance Requirements (TCR's) modifications identified as ECP-1325, 1227, and 1243 will extend the service life of the aircraft to comply with current force level projections. The inclusion of the analysis and non-recurring for 9000 hour TCR is necessary to extend the service life of the upgrade aircraft to ensure those with greatest Fatigue Life Expended (FLE) are returned to the fleet with adequate flight time available. 9K TCR kit buys and all other NRE for all F-14 aircraft are contained in OSIP 152-83.

The development, system integration test, and prototype modifications are on schedule. All scheduled program milestones have been completed. This budget provides a program compatibility with a precision strike and increased survivability capability for the F-14.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
5K HR TCR/ECP-1225/1227	42	8.2																			42	8.2
7K HR TCR/ECP-1243	47	3.1	15	1.4	3	0.4															65	4.8
AFC-840 UPGRADE/ECP-245	57	10.6	10	1.1			2	0.2													69	12.0
AFC-844 TARPS/ECP-269	14	1.1					2	0.3													16	1.4
BOL CHAF/ECP-236	70	0.4	10	0.1																	80	0.5
TCR, AUX Hardware		3.8		0.5		0.3		0.2														4.7
ALR-67 Provisions		0.4																				0.4
NVIS/LANTIRN/BOL Aux H/W								0.2														0.2
Wiring Kapton Replacement		1.9																				1.9
Installation Kits N/R		15.3																				15.3
Installation Equipment																						
Hybrid 5400B Computer	66	14.8	10	2.3	2	0.4															78	17.6
PTID	25	12.4					2	1.0													27	13.4
PMDIG	66	10.5	10	1.7	2	0.3															78	12.5
AWG-15	66	5.8	10	1.1	2	0.2															78	7.1
MRSA	4	0.1																			4	0.1
MDL	19	0.7																			19	0.7
Installation Equipment N/R		144.9																				144.9
Engineering Change Orders																						
Engineering Change Orders		1.0		0.6																		1.6
Data		5.0																				5.0
Training Equipment		6.6		0.2		0.1																6.9
Support Equipment		24.7		1.9		1.6		0.1														28.4
ILS		18.9		3.9		1.8		0.1														24.6
Other Support		24.4		23.9		17.8		4.3														70.4
Interim Contractor Support																						
Installation Cost	164	27.0	60	16.4	30	8.4	12	5.1													266	56.9
Total Procurement		341.3		54.9		31.4		11.6														439.2

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/BMODIFICATION TITLE: F-14A/B Structural Maintenance and Survivability Block Upgrade (OSIP 33-92) ECP-245

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot or commercial installations concurrent with SDLM or drive-in-modification.ADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 10 MonthsCONTRACT DATES: FY 1998: 01/98 FY 1999: FY 2000: 10/99DELIVERY DATE: FY 1998: 01/99 FY 1999: FY 2000: 8/00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (67) kits	37	12.3	17	6.6	10	3.5	3	1.0													67	23.3
FY 1999 () kits																						
FY 2000 (2) kits							2	0.8													2	0.8
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	37	12.3	17	6.6	10	3.5	5	1.8													69	24.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	37	6	3	3	5	3	3	2	2	3	2														
Out	25	4	2	3	3	3	3	3	3	3	3	4	4	4	2										

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4.0	1	2	3	4		
In										69
Out										69

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/BMODIFICATION TITLE: F-14A/B Struct. Maint. and Surv. Blk. Upgrade (OSIP 33-92) ECP-1225/1227/1243 (5K HR & 7K HR TCR'S)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot or commercial installations concurrent with SDLM or drive-in-modifications.ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 10 MonthsCONTRACT DATES: FY 1998: 12/97 FY 1999: 12/98 FY 2000: DELIVERY DATE: FY 1998: 10/98 FY 1999: 10/99 FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (104) kits	61	13.0	21	9.5	20	5.0	2	1.5													104	28.9
FY 1999 (3) kits							3	1.7													3	1.7
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	61	13.0	21	9.5	20	5.0	5	3.2													107	30.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	61	6	5	6	4	4	5	5	6	5															
Out	39	6	5	6	5	5	5	5	4	4	4	4	5	7	3										

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4.0	1	2	3	4		
In										107
Out										107

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B MODIFICATION TITLE: F-14A/B Structural Maintenance and Survivability Block Upgrade (OSIP 33-92) ECP-236, BOL Chaff

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot or commercial installations concurrent with SDLM or drive-in-modifications.

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1998: 10/97 FY 1999: FY 2000:

DELIVERY DATE: FY 1998: 11/97 FY 1999: FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (74) kits	64	1.7	10	0.3																	74	2.0
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	64	1.7	10	0.3																	74	2.0

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	64	3	2	3	2																				
Out	54	3	2	3	2	3	2	2	3																

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										74
Out										74

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: **F-14A/B**

MODIFICATION TITLE: F-14A/B Structural Maintenance and Survivability Block Upgrade (OSIP 33-92) ECP-269,AFC-844 TARPS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot or commercial installations concurrent with SDLM or drive-in-modifications.ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 2 MonthsCONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: 10/99DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: 12/99

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (14) kits	2		12																		14	
FY 1999 () kits																						
FY 2000 (2) kits							2	0.1													2	0.1
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	2		12				2	0.1													16	0.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2	3	3	3	3					2															
Out	2					3	3	3	3				2												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out										16

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

Digital Flight Control System Improvement (DFCS) (OSIP 12-94)

MODELS OF SYSTEMS AFFECTED:

F-14A/B/D

TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The F-14 has proven itself to be an extremely capable fighter since its IOC in 1973. Major aircraft improvements have already been developed which extend the service life of the F-14 to the year 2010. These improvements are primarily avionics and engine-performance upgrades which will greatly increase the F-14's capabilities. The F-14 Flight Control System (FCS) has never been upgraded. Its significant deficiencies will continue to limit the F-14's ability. Analysis has shown 35 F-14's Class A mishaps are due to out of control flight. At least 12 and possibly more could have been saved by the proposed DFCS improvements. The Foreign Comparison Test (FCT) demonstration program of \$36.18M completed on DFCS's ability to correct F-14 out of control flight and improve approach characteristics and boarding rate. The DFCS Improvement Program will correct flight control deficiencies contained in ORD # 278-05-92 dated 2 FEB 1991 and will consist of the following elements: Stability Augmentation System; Lateral Stick-to-Rudder Interconnect; Spin Resistance/Prevention; Wing Rock Suppression; Differential Stabilator Deflection Limiting; Low Speed Cross Controls; Landing Flying Qualities Improvement; and EMC/EMI hardening.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Current milestone projections for this program include non-recurring contract awarded 29 March 1996. Approval for procurement of initial production lot occurred 20 December 1996. The ECP was approved in April 1997. The first production contract was awarded in February 1997 with first delivery received in May 1998 and aircraft modifications began in May 1998.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
F-14A Kits	1	*	53	0.8	21	0.4															75	1.2
F-14 Reserve Kits																						
F-14B Kits	1	*	20	0.3	40	0.7	5	0.1													66	1.1
F-14D Kits	1	*	9	0.1	28	0.5	12	0.2													50	0.9
AICS Programmer																						
Installation Kits N/R		*																				0.0
Installation Equipment	80	14.4	83	15.4	29	5.7															192	35.6
Installation Equipment N/R		9.1				0.8		1.0														10.8
Data		1.2		1.2		0.3																2.7
Training Equipment		1.7		1.7		0.7		0.1														4.2
Support Equipment		0.9		1.4		0.1																2.4
ILS		0.7		0.5		0.5		0.3														2.0
Other Support		10.4		8.4		6.5		3.7														29.0
Interim Contractor Support						0.6		0.5														1.0
Installation Cost			56	2.4	98	4.3	37	1.7													191	8.3
Total Procurement		38.5		32.3		20.9		7.5														99.1

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: Digital Flight Control System Improvements (DFCS) (OSIP 12-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

NADEP and Contractor Field Modification Team

ADMINISTRATIVE LEADTIME: 8 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1998: 12/98 FY 1999: 11/98 FY 2000: 11/99

DELIVERY DATE: FY 1998: 05/99 FY 1999: 4/99 FY 2000: 4/00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (85) kits			56	2.4	29	1.5															85	3.9
FY 1999 (89) kits					69	2.8	20	1.0													89	3.8
FY 2000 (17) kits							17	1													17	0.7
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			56	2.4	98	4.3	37	1.7													191	8.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In				28	28	24	24	25	25	24	13														
Out				28	28	24	24	25	25	24	13														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										191
Out										191

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Global Positioning System/Embedded GPS (OSIP 31-94)MODELS OF SYSTEMS AFFECTED: F-14A/B/DTYPE MODIFICATION: Reliability

DESCRIPTION/JUSTIFICATION: The Global Positioning System (GPS) is a spaced-based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users on or near the Earth. GPS is designed to provide highly accurate passive position (16 meters), velocity (0.1 meter/sec) and time to users worldwide in all weather conditions. The GPS will interface with communication, navigation, and weapon systems equipment (i.e., standard attitude heading reference systems, inertial navigation systems, on-board computers, etc.) in selected application. For the F-14A/B aircraft, the GPS capability will be provided by the Embedded GPS/INS (EGI) avionics equipment. This combination allows for a "blended", highly accurate navigational solution between the GPS and the Inertial Navigation System (INS). For the F-14D, the GPS capability will be provided by the Miniaturized Airborne GPS Receiver (MAGR).

SPAWAR is the Primary Development Agency (PDA) for GPS and has funded Research and Development costs to design, prototype, install and test the integrated system on the first of each aircraft type. This effort includes development and documentation of the "A" kits. Procurement for the "A" kit, installation, ILS and "A" kit spares are NAVAIR, PMA responsibilities. The Group "A" kits are procured in this Operational and Safety Improvement Program (OSIP). The Group "A" kits consist of cabling, racks, airframe 4 structural components and other components required to install the equipment.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NAVSTAR GPS program completed Phase II (full scale engineering development), completed Milestone IIIA (approval for limited production) in June 1986, and completed Milestone IIIB in January 1992. Congressional mandate has directed that GPS be installed in all platforms by the end of FY 2000. This has accelerated the original GPS procurement plan. Installation will be via drive-in mod and field mod teams.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
F-14B	20	1.3	27	1.8	19	1.3															66	4.3
F-14D	22	1.7	11	0.7	15	1.0															48	3.5
Installation Kits N/R		12.1																				12.1
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Engineering Change Orders		0.1		0.1																		0.1
Data		2.9		2.0																		4.9
Training Equipment	2	3.0	2	2.3																	4	5.3
Support Equipment		1.6		0.6																		2.2
ILS		1.2		0.3																		1.5
Other Support		4.8		7.2		0.8		0.5														13.4
Interim Contractor Support				1.2		0.3		0.3														1.8
Installation Cost	2	0.1	36	1.8	53	5.8	27	2.3													118	10.0
Total Procurement		28.7		17.9		9.2		3.1														58.9

Notes:

1. Totals may not add due to rounding

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14B/D MODIFICATION TITLE: Global Positioning System/Embedded GPS (OSIP 31-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP & contractor concurrent with standard depot level maintenance and drive-in modification for "A" kits. Kit "B" will be intermediate level installation.

ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 1998: 02/98 FY 1999: 12/98 FY 2000:

DELIVERY DATE: FY 1998: 11/98 FY 1999: 8/99 FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (84) kits	2	0.1	36	1.8	46	5.0															84	6.9
FY 1999 (34) kits					7	0.8	27	2.3													34	3.1
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	2	0.1	36	1.8	53	5.8	27	2.3													118	8.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2	9	9	9	9	13	13	14	13	7	7	7	6												
Out	2	9	9	9	9	13	13	14	13	7	7	7	6												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										118
Out										118

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

F-14 Precision Strike Program (OSIP 42-95)

MODELS OF SYSTEMS AFFECTED:

F-14A/B/D

TYPE MODIFICATION: Warfighting Upgrade

DESCRIPTION/JUSTIFICATION: The F-14 Precision Strike Operational Document (ORD 406-88-95) dated 14 June 1995 delineates an urgent Fleet requirement for a precision strike capability in FY 1996 to maintain a capacity for long range, high payload strike missions due to the A-6 retirement. The F-14 Precision Strike Program will enhance the strike-fighter capabilities of the existing F-14 aircraft to maintain a carrier-based extended range, high payload strike capability for the Fleet. The strike-fighter capability of the F-14 aircraft will be enhanced through the incorporation of a Forward Looking Infrared Receiver/Laser Designator (FLIR/LD). The FLIR/LD will provide the capability to autonomously target and deliver laser guided bombs (LGB's) and GPS Guided Weapons against strategic, high value targets (industrial complexes, power plants, bridges, etc.) and mobile battlefield targets (tanks, armored personnel carriers, SAM sites, etc.). The FLIR/LD system will be augmented by the Fast Tactical Imagery System to allow FLIR/LD information to be passed near real time to the battle group. To enhance the survivability of the F-14 defensive countermeasure systems (AN/ALR-67/Bol Chaff), night vision compatible cockpit modification and increasing the operational altitude of the LTS to 40,999 feet will be made to fleet aircraft. To enhance the F-14 aircraft capability to perform the Forward Air Control (Airborne) mission fleet aircraft will be modified to deliver rockets to designed targets. Non-development items (NDI) will be used to the maximum extent on this program.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The F-14 Precision Strike Program has been designated an ACAT III program and milestone decision authority has been designated to Program Executive Officer for Tactical Air Programs (PEO(T)). The program was approved at a Milestone IV/II Review in October 1995. Following the milestone decision, the integration of a NDI FLIR/LD (LANTIRN targeting pod) and Programmer Tactical Information Display (PTID) on the F-14 aircraft began with the award of the integration contract to Lockheed Martin Corporation in November 1995. To lower cost and shorten schedule, the FLIR/LD was integrated as a stand alone sensor. F-14 FLIR/LD operational capability was established in June 1996.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
F-14B MCAP	10	0.2																			10	0.2
F-14A Kits	60	2.7	10	0.5																	70	3.2
F-14B UPGRADE Kits	39	1.8	12	0.6	12	0.6	4	0.2													67	3.1
F-14D Kits	26	1.0	18	0.9	4	0.2															48	2.1
AN/ALR-67 Kits	20	3.8	31	6.1																	51	10.0
NVIS F-14A/B Kits	47	1.3	67	1.9																	114	3.2
NVIS F-14D Kits	8	0.2	7	0.2	28	0.8															43	1.3
F-14 FTI KITS					117	0.3															117	0.3
Bol Chaff F-14A Kits	80	0.6																			80	0.6
F-14B/D GBU-24E/B KITS					117	1.7															117	1.7
Installation Kits N/R		6.1		2.0		2.3		1.8														12.1
Installation Equipment																						
Lantirn Targeting System	21	48.2	25	62.1	29	62.9															75	173.3
Night Vision Equipment			88	1.5	89	1.5															177	3.0
ALR-67 BSF			20	1.6	40	2.4															60	4.0
GBU 24E/B AAE					57	0.6	57	0.6													114	1.1
PTIDS							28	14.0													28	14.0
LANTIRN 40K							74	5.5													74	5.5
Installation Equipment N/R	19	55.6		0.2		3.8		2.1													19	61.8
Engineering Change Orders																						
Engineering Change Orders		1.5																				1.5
Data		1.1		1.5		1.2		0.2														3.9
Training Equipment		0.1	2	2.1	1	1.2		1.1													3	4.4
Support Equipment		12.1		11.5		1.1		1.0														25.7
ILS		4.2		2.2		3.2		2.9														12.4
Other Support		3.9		3.9		1.5		1.4														10.6
Interim Contractor Support		3.8		1.6		1.2		0.8														7.3
Installation Cost	237	10.3	187	7.4	195	2.4	98	1.0													717	21.1
Total Procurement		158.5		107.6		88.7		32.6														387.4

Notes:

1. Totals may not add due to rounding

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED F-14A/B/DMODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) F-14B MLAP, F-14A Kits, F-14B Upgrade Kits, F-14D Kits

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot Installations concurrent with SDLM or drive-in modifications.ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 3 MonthsCONTRACT DATE FY 1998: 11/97 FY 1999: 11/98 FY 2000: 11/99DELIVERY DATE: FY 1998: 02/98 FY 1999: 02/99 FY 2000: 02/00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (175) kits	114	8.2	50	2.6	11	0.6															175	11.4
FY 1999 (16) kits					13	0.7	3	0.3													16	1.0
FY 2000 (4) kits							4	0.1													4	0.1
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	114	8.2	50	2.6	24	1.3	7	0.5													195	12.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	114	12	12	13	13	6	6	6	6	6	1														
Out	114	12	12	13	13	6	6	6	6	6	1														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										195
Out										195

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED F-14A/B/DMODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) ALR-67

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot Installations concurrent with SDLM or drive-in modifications.ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 5 MonthsCONTRACT DATE FY 1998: 11/97 FY 1999: _____ FY 2000: _____DELIVERY DATE: FY 1998: 04/98 FY 1999: _____ FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (51) kits	7	0.6	44	3.8																	51	4.4
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	7	0.6	44	3.8																	51	4.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	7	13	16	15																					
Out	7	13	16	15																					

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										51
Out										51

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED F-14A/B/DMODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) BOL Chaff

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation depot Installations concurrent with SDLM or drive-in modifications.ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 6 MonthsCONTRACT DATE FY 1998: 09/96 FY 1999: _____ FY 2000: _____DELIVERY DATE: FY 1998: 03/97 FY 1999: _____ FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (80) kits	61	1.2	19	0.5																	80	1.7
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	61	1.2	19	0.5																	80	1.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	61	8	11																						
Out	61	8	11																						

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										80
Out										80

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED F-14A/B/DMODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) Night Vision

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot Installations concurrent with SDLM or drive-in modifications.ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 6 MonthsCONTRACT DATE FY 1998: 11/97 FY 1999: 11/98 FY 2000: _____DELIVERY DATE: FY 1998: 05/98 FY 1999: 5/99 FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (129) kits	55	0.2	74	0.5																	129	0.7
FY 1999 (28) kits					28	0.1															28	0.1
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	55	0.2	74	0.5	28	0.1															157	0.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	55			37	37			28																	
Out	55			37	37			28																	

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										157
Out										157

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED **F-14B/D**

MODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) GBU-24

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot Installations concurrent with SDLM or drive-in modifications.ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 2 MonthsCONTRACT DATE FY 1998: _____ FY 1999: 02/99 FY 2000: _____DELIVERY DATE: FY 1998: _____ FY 1999: 04/99 FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (117) kits					58	0.5	59	0.5													117	1.0
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					58	0.5	59	0.5													117	1.0

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								29	29	15	15	15	14												
Out								29	29	15	15	15	14												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										117
Out										117

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED F-14B/DMODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) FAST TACTICAL IMAGERY (FTI)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot Installations concurrent with SDLM or drive-in modifications.ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 1 MonthsCONTRACT DATE FY 1998: _____ FY 1999: 02/99 FY 2000: _____DELIVERY DATE: FY 1998: _____ FY 1999: 03/99 FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (117) kits					85	0.5	32	0.1													117	0.6
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					85	0.5	32	0.1													117	0.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							10	37	38	16	16														
Out							10	37	38	16	16														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										117
Out										117

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96)MODELS OF SYSTEMS AFFECTED: F-14A/B/DTYPE MODIFICATION: Safety/Reliability

DESCRIPTION/JUSTIFICATION: The F-14 TOMCAT will provide Strike Fighter capability for Naval Aviation until integration of the F/A-18EF. System and component age and obsolescence will continue to impact F-14 safety and mission effectiveness. A need exists to develop and implement cost effective modifications for problem systems and components. Modifications included in this OSIP will reduce potential safety risks and improve aircraft mission performance through modernization of critical systems and components. These modifications consist of the following Engineering Change Proposals (ECP's): AWG-9 ECP 315-318 redesigns the antenna servo electronic package, updates the detail data display, replaces obsolete parts in the RF oscillator and corrects pre amp problems in the radar receiver; Throttle Quadrant ECP 309 replaces obsolete wiring and switches (safety issue); Vertical Display Indicator Group ECP 308 improves internal thermal control and replaces high failure parts (safety issue); Flap/Slat ECP 310 replaces bearing and control tube components reducing wing binding (safety issue); ECPs 320/321 correct medium PRF problems with power supplies and get them up to current -170 configurations, Wing Sweep Motors, 15 Degree Elbow Hydraulic Lines, the Turtleback Optical Fire Detection, Nacelle Elements, AICS Programmer, APG-71, F-14D IRST Compressor, the Mission Computer Upgrade, F-14D JTIDS Notch Filter, and HUD, SCADC, F-14D Glareshield and F-14D Readiness Improvement Requirements. Additional ECP's may be added from time to time as the need arises

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: No major development is planned within this OSIP. Potential safety and performance issues were identified in concert with NAVAIR, Fleet users, and the F-14 Fleet Support Team (FST). The FST used follow-on engineering/logistical analysis to identify affordable modifications that correct problems in weak or failing components rather than completely redesigning the system/subsystem.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AWG-9 Antenna**			65	0.2	105	0.3															170	0.4
AWG-9 BEAM Power Supply			170	0.4	30	0.1															200	0.5
AWG-9 COLL Pwr Supp			170	0.6	30	0.1															200	0.7
AWG-9 DDD**			65	*	105	0.7															170	0.7
AWG-9 Receiver**			65	1.1	105	1.8															170	2.8
Flap/Slat			104	*	96	*															200	0.0
FCBM (ECP-276)					145	0.1															145	0.1
Throttle Quadrant					200	0.8															200	0.8
VDIG			64	0.1																	64	0.1
Wing Sweep Motors**							121	2.3	279	5.3											400	7.6
Turtleback Optical Fire Detection							20	0.1	180	0.9											200	1.0
Nacelle Elements							20	0.2	180	1.8											200	2.0
15 Deg Elbow Hyd Line**					200	0.4															200	0.4
Waveguide Dryers**					48	0.2	152	0.5													200	0.7
APG-71 Power Conv.**							200	0.5													200	0.5
F-14D IRST Compressor**							12	1.0													12	1.0
Mission Computer Upgrade**							6	0.6	42	4.2											48	4.8
F-14D HUD**							10	*													10	0.0
SCADC**					150	0.1															150	0.1
F-14D Glareshield**					10	0.1	40	0.2													50	0.3
F-14D JTIDS Notch Filter**							12	1.0	38	3.0											50	4.0
AICS Programmer							9	0.6	46	3.0											55	3.6
Installation Kits N/R				1.5		4.7		0.6														6.7
Installation Equipment																						
Installation Equipment N/R						0.1																0.1
Engineering Change Orders																						
Data				*		0.6		0.2														0.7
Training Equipment						0.8		0.5														1.3
Support Equipment					1	0.3	30	1.3	34	0.4	22	0.4									87	2.3
ILS						*																0.0
Other Support				2.8		1.7		1.8		1.7												8.0
Interim Contractor Support																						
Installation Cost			130	0.6	639	2.4	289	1.9	406	5.8											1,464	10.7
Total Procurement				7.2		15.1		13.2		26.1		0.4										62.0

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Double asterisk indicates kits are being installed at O & I Level - No P-3a installation schedule attached.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE:F-14 Critical System & Component Modernization (OSIP 20-96) ECP-309 (THROTTLE QUADRANT)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Maintenance and organization and intermediate level.

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1998: FY 1999: 12/98 FY 2000: FY 2001:

DELIVERY DATE: FY 1998: FY 1999: 02/99 FY 2000: FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (200) kits					200	0.4															200	0.4
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					200	0.4															200	0.4

Installation Schedule

	FY 1998 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							31	79	90																
Out							31	79	90																

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										200
Out										200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14 A/B/D

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-321 (AWG-9 BEAM Pwr Supp)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Maintenance and Organizational and intermediate level.

ADMINISTRATIVE LEADTIME: 10 Months

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 1998: 07/98

FY 1999: 12/98

FY 2000:

FY 2001:

DELIVERY DATE: FY 1998: 09/98

FY 1999: 2/99

FY 2000:

FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (170) kits			65	0.3	105	0.3															170	0.6
FY 1999 (30) kits					30	0.1															30	0.1
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			65	0.3	135	0.4															200	0.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					65	35	35	35	30																
Out					65	35	35	35	30																

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										200
Out										200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14 A/B/D

MODIFICATION TITLE:F-14 Critical System & Component Modernization (OSIP 20-96) ECP-320 (AWG-9 COLL Pwr Supp)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Maintenance and organizational and intermediate level.

ADMINISTRATIVE LEADTIME: 10 MonthsPRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 1998: 07/98FY 1999: 12/98FY 2000:FY 2001:

DELIVERY DATE: FY 1998: 09/98FY 1999: 2/99FY 2000:FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (170) kits			65	0.3	105	0.3															170	0.6
FY 1999 (30) kits					30	0.1															30	0.1
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			65	0.3	135	0.4															200	0.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					65	35	35	35	30																
Out					65	35	35	35	30																

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										200
Out										200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14 A/B/D**MODIFICATION TITLE: **F-14 Critical System & Component Modernization (OSIP 20-96) ECP-276 (FCBM Wiring)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Depot Level Maintenance and Intermediate Level.

ADMINISTRATIVE LEADTIME:

1 Months

PRODUCTION LEADTIME:

5 Months

CONTRACT DATES: FY 1998: _____

FY 1999: **10/98** _____

FY 2000: _____

FY 2001: _____

DELIVERY DATE: FY 1998: _____

FY 1999: **3/99** _____

FY 2000: _____

FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (145) kits					65	0.2	80	0.3													145	0.5
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					65	0.2	80	0.3													145	0.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									65	40	40														
Out									65	40	40														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										145
Out										145

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14 A/B/D**MODIFICATION TITLE: **F-14 Critical System & Component Modernization (OSIP 20-96) ECP-308 (VDIG)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Depot Level Maintenance

ADMINISTRATIVE LEADTIME:

4 Months

PRODUCTION LEADTIME:

11 MonthsCONTRACT DATES: FY 1998: **09/98**

FY 1999: _____

FY 2000: _____

FY 2001: _____

DELIVERY DATE: FY 1998: **08/99**

FY 1999: _____

FY 2000: _____

FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (64) kits							64	0.2													64	0.2
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							64	0.2													64	0.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										32	32														
Out										32	32														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										64
Out										64

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: **F-14 A/B/D**MODIFICATION TITLE: **F-14 Critical System & Component Modernization (OSIP 20-96) ECP-310 (FLAP SLAT)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Depot Level Maintenance

ADMINISTRATIVE LEADTIME:

1 Months

PRODUCTION LEADTIME:

5 MonthsCONTRACT DATES: FY 1998: 05/98FY 1999: 12/98

FY 2000: _____

FY 2001: _____

DELIVERY DATE: FY 1998: 10/98FY 1999: 5/99

FY 2000: _____

FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (104) kits					104	1.0															104	1.0
FY 1999 (96) kits							96	0.7													96	0.7
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					104	1.0	96	0.7													200	1.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							36	36	32	32	32	32													
Out							36	36	32	32	32	32													

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										200
Out										200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14 A/B/D

MODIFICATION TITLE:F-14 Critical System & Component Modernization (OSIP 20-96) Turtleback Optical Fire Detection

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Maintenance

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000: 1/00 FY 2001:

DELIVERY DATE: FY 1998: FY 1999: FY 2000: 7/00 FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (20) kits							20	0.2													20	0.2
FY 2001 (180) kits									180	1.9											180	1.9
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							20	0.2	180	1.9											200	2.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													20	60	60	60									
Out														20	60	60	60								

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										200
Out										200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14 A/B/D

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) Nacelle Elements

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Maintenance

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000: 01/00 FY 2001:

DELIVERY DATE: FY 1998: FY 1999: FY 2000: 04/00 FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (20) kits							20	0.2													20	0.2
FY 2001 (180) kits									180	1.9											180	1.9
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							20	0.2	180	1.9											200	2.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													20	60	60	60									
Out														20	60	60	60								

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										200
Out										200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14 A/B/D

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) AICS Programmer

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Maintenance

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000: 01/00 FY 2001: 01/01

DELIVERY DATE: FY 1998: FY 1999: FY 2000: 07/00 FY 2001: 07/01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (9) kits							9	0.4													9	0.4
FY 2001 (46) kits									46	2.0											46	2.0
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							9	0.4	46	2.0											55	2.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In														9	12	12	12	10							
Out													4	12	12	12	12	3							

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										55
Out										55

CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: FEBRUARY 2000				
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE Adversary Series Modifications				
Program Element for Code B Items:								Other Related Program Elements				
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY												
COST (In Millions)	3.2		0.1	*		6.9	4.0	2.0	2.0	1.0	0.6	19.7
<p>This line item funds modifications to an inventory of 36 F-5 Adversary aircraft. It allows the U.S. Navy to maintain as close a standardized configuration with the Air Force as possible based on need. It also allows the Navy to initiate unique structural or avionics modifications. The overall goal of the modifications budgeted in FY 2001 is to incorporate into the airframe and engines, selected Air Force approved Time-Compliance Technical Orders (TCTO's) to improve safety and reliability. The specific modifications budgeted and programmed are:</p>												
(TOA, \$ in Millions)												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
29-81	Structural Fatigue/ Standardized Configuration with USAF	3.2	0.1	*		6.9	4.0	2.0	2.0	1.0	0.6	19.7
TOTAL		3.2	0.1	*		6.9	4.0	2.0	2.0	1.0	0.6	19.7
* indicates amount less than 0.051 Million												
Funding for Reserve Forces			0.1									

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Follow-on Structural Fatigue/Standardized Configuration with USAF (OSIP 29-81)MODELS OF SYSTEMS AFFECTED: F-5 Adversary AircraftTYPE MODIFICATION: Safety/Reliability

DESCRIPTION/JUSTIFICATION: The Navy F-5 adversary aircraft inventory and all applicable funds are for 36 aircraft. USAF updated durability and damage and tolerance analysis, structural inspection, full scale fatigue testing and counting accelerometer data has identified structural fatigue in wings and fuselage areas. All US Navy aircraft will be grounded when fatigue life is expended on non-cold work wings until replaced with a cold work wing. Remaining aircraft require upper cockpit longeron repaired or replaced and dorsal longeron replacement. The avionics portion of this program includes such improvements as structural monitoring system. Installation of flight data recorder will ensure accurate recording of flight profile data and can result in up to 25% increase in fatigue life because of availability of data. The Navy will also have to install Improved Handling Quality changes in all aircraft received from the US Air Force. These changes are necessary because of the flight envelope these aircraft are operated in and also to maintain common configuration with existing Navy aircraft. In addition, selected Air Force approved Time Compliance Technical Orders (TCTOs) will be incorporated to

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: No development required.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Various Kits	291	1.2																			291	1.2
Wings									4	5.0											4	5.0
Vertical Stabilizer									6	1.2	14	3.0									20	4.2
Upper Cockpit Longeron									1	0.1					3	0.3	4	0.5			8	0.9
Horizontal Stabilizer									3	0.3	6	0.7	13	1.7	13	1.6					35	4.2
Installation Kits N/R		1.5		0.1		*																1.7
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1																				0.1
Training Equipment																						
Support Equipment																						
ILS									0.3		0.1		0.1		*		0.1					0.7
Other Support																						
Interim Contractor Support																						
Installation Cost	291	0.4																			291	0.4
Installation Vstab											6	0.1	14	0.2							20	0.3
Installation Up Cockpit Longeron											1	0.1					3	0.4	4	0.6	8	1.1
Total Procurement		3.2		0.1		*				6.9		4.0		2.0		2.0		1.0	4	0.6		19.7

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-5 Adversary Aircraft

Follow-on Structural Fatigue/Standardized Configuration with USAF (OSIP 29-81)
MODIFICATION TITLE: (Vertical Stabilizer, Upper Cockpit Longeron)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: _____

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: Nov-01

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: Jan-02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (291) kits	291	0.4																			291	0.4
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 (7) kits											7	0.2									7	0.2
FY 2002 (14) kits													14	0.2							14	0.2
FY 2003 () kits																						
FY 2004 (3) kits																	3	0.4			3	0.4
FY 2005 (4) kits																			4	0.6	4	0.6
To Complete () kits																						
TOTAL	291	0.4									7	0.2	14	0.2			3	0.4	4	0.6	319	1.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	291																		3	4			7	7	
Out	291																		3	3	1		6	7	1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In						3			4	319
Out					1	2			4	319

CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET										P-40		DATE: February 2000																																																																																																																																																																																																																																																								
APPROPRIATION/BUDGET ACTIVITY								P-1 ITEM NOMENCLATURE																																																																																																																																																																																																																																																												
Aircraft Procurement, Navy/APN-5 Aircraft Modifications								F-18 Series Modification																																																																																																																																																																																																																																																												
Program Element for Code B Items:								Other Related Program Elements																																																																																																																																																																																																																																																												
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																																																																																																																																																								
QUANTITY																																																																																																																																																																																																																																																																				
COST (In Millions)	417.5		141.9	171.4	319.7	212.6	197.9	231.4	249.4	256.5	1,131.7	3,329.9																																																																																																																																																																																																																																																								
<p>This line item funds modifications to F/A-18 aircraft. The F/A-18 Naval Strike Fighter is a twin-engine, mid-wing, multi-mission tactical aircraft. The F/A-18 is employed in both Navy and Marine Corps squadrons. Commencing with the FY 1988 procurement, both the single seat and two-seat F/A-18's include a night attack capability. F/A-18 can be missionized through selected use of external equipment to accomplish specific fighter or attack missions. This commonality provides the Operational Commander more flexibility in employing his tactical aircraft in a dynamic scenario. The primary design mission for the F/A-18 is a strike fighter which includes the traditional fighter applications, such as fighter escort and fleet air defense, combined with the attack applications, such as interdiction and close air support. Since the same fighter and self defense capability is retained, the overall goal of the modifications budgeted in FY 2001 is to implement commonality/capability. The specific modifications budgeted and programmed are:</p> <p>(TOA, \$ in Millions)</p> <table border="1"> <thead> <tr> <th>OSIP No.</th> <th>Description</th> <th>Prior Years</th> <th>FY 1998</th> <th>FY 1999</th> <th>FY 2000</th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> <th>FY 2004</th> <th>FY 2005</th> <th>To Complete</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>11-84</td> <td>Correction of Discrep.</td> <td>151.3</td> <td>17.8</td> <td>37.2</td> <td>46.3</td> <td>57.7</td> <td>58.8</td> <td>61.4</td> <td>51.7</td> <td>53.2</td> <td>126.1</td> <td>661.6</td> </tr> <tr> <td>39-92</td> <td>AN/ARC-210</td> <td>9.3</td> <td>0.3</td> <td>0.1</td> <td>1.1</td> <td>1.9</td> <td>2.4</td> <td>1.5</td> <td>1.2</td> <td></td> <td></td> <td>17.9</td> </tr> <tr> <td>19-94</td> <td>Common Configuration</td> <td>102.2</td> <td>17.0</td> <td>21.9</td> <td>17.9</td> <td>19.4</td> <td>31.5</td> <td>56.5</td> <td>70.2</td> <td>82.1</td> <td>214.9</td> <td>633.7</td> </tr> <tr> <td>36-94</td> <td>GPS</td> <td>29.0</td> <td>2.8</td> <td>9.7</td> <td>8.8</td> <td>8.1</td> <td>9.8</td> <td>4.4</td> <td>1.3</td> <td>2.0</td> <td></td> <td>75.8</td> </tr> <tr> <td>38-94</td> <td>AN/APG-73 RUG</td> <td>35.8</td> <td>15.1</td> <td>18.8</td> <td>56.9</td> <td>18.5</td> <td>3.7</td> <td>4.2</td> <td>18.0</td> <td>16.6</td> <td>0.2</td> <td>187.9</td> </tr> <tr> <td>12-96</td> <td>PIDS</td> <td>27.8</td> <td>6.6</td> <td>11.3</td> <td>1.9</td> <td>1.5</td> <td>0.4</td> <td></td> <td></td> <td></td> <td>185.5</td> <td>235.0</td> </tr> <tr> <td>3-97</td> <td>ATARS</td> <td>62.1</td> <td>58.2</td> <td>41.9</td> <td>55.8</td> <td>23.8</td> <td></td> <td></td> <td></td> <td></td> <td>12.7</td> <td>254.5</td> </tr> <tr> <td>23-98</td> <td>Naval Reserve Upgrade</td> <td></td> <td>24.0</td> <td>1.3</td> <td>6.9</td> <td>3.0</td> <td></td> <td></td> <td></td> <td></td> <td>7.5</td> <td>42.7</td> </tr> <tr> <td>10-99</td> <td>DCS</td> <td></td> <td></td> <td>5.3</td> <td>0.4</td> <td>0.6</td> <td>4.1</td> <td>3.8</td> <td>4.4</td> <td>4.9</td> <td>1.4</td> <td>24.8</td> </tr> <tr> <td>11-99</td> <td>SLMP</td> <td></td> <td></td> <td>7.6</td> <td>10.6</td> <td>2.0</td> <td>17.7</td> <td>24.2</td> <td>32.2</td> <td>35.0</td> <td>444.2</td> <td>573.4</td> </tr> <tr> <td>12-99</td> <td>MIDS</td> <td></td> <td></td> <td>9.3</td> <td>47.0</td> <td>49.7</td> <td>56.5</td> <td>48.2</td> <td>48.9</td> <td>40.5</td> <td>90.0</td> <td>390.0</td> </tr> <tr> <td>20-99</td> <td>NACES P3I</td> <td></td> <td></td> <td>6.9</td> <td>4.5</td> <td>2.7</td> <td></td> <td></td> <td></td> <td></td> <td>4.8</td> <td>18.9</td> </tr> <tr> <td>11-00</td> <td>ALR-67(V)3</td> <td></td> <td></td> <td></td> <td>1.6</td> <td>0.9</td> <td>1.5</td> <td>1.5</td> <td>1.5</td> <td>1.5</td> <td>9.1</td> <td>17.6</td> </tr> <tr> <td>21-00</td> <td>USMC F/A-18A UPGRADE</td> <td></td> <td></td> <td></td> <td>57.9</td> <td>22.7</td> <td>11.6</td> <td>11.8</td> <td></td> <td></td> <td></td> <td>104.1</td> </tr> <tr> <td>24-00</td> <td>JHMCS</td> <td></td> <td></td> <td></td> <td>2.0</td> <td></td> <td></td> <td>13.4</td> <td>16.8</td> <td>18.1</td> <td>32.7</td> <td>83.0</td> </tr> <tr> <td>XX-03</td> <td>AIM-9X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.3</td> <td>3.3</td> <td>2.7</td> <td>2.5</td> <td>8.9</td> </tr> <tr> <td>TOTAL</td> <td></td> <td>417.5</td> <td>141.9</td> <td>171.4</td> <td>319.7</td> <td>212.6</td> <td>197.9</td> <td>231.4</td> <td>249.4</td> <td>256.5</td> <td>1,131.7</td> <td>3,329.9</td> </tr> <tr> <td colspan="2">RESERVE INCLUDED IN TOTAL</td> <td></td> <td>26.467</td> <td>6.132</td> <td>7.057</td> <td>3.118</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>														OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total	11-84	Correction of Discrep.	151.3	17.8	37.2	46.3	57.7	58.8	61.4	51.7	53.2	126.1	661.6	39-92	AN/ARC-210	9.3	0.3	0.1	1.1	1.9	2.4	1.5	1.2			17.9	19-94	Common Configuration	102.2	17.0	21.9	17.9	19.4	31.5	56.5	70.2	82.1	214.9	633.7	36-94	GPS	29.0	2.8	9.7	8.8	8.1	9.8	4.4	1.3	2.0		75.8	38-94	AN/APG-73 RUG	35.8	15.1	18.8	56.9	18.5	3.7	4.2	18.0	16.6	0.2	187.9	12-96	PIDS	27.8	6.6	11.3	1.9	1.5	0.4				185.5	235.0	3-97	ATARS	62.1	58.2	41.9	55.8	23.8					12.7	254.5	23-98	Naval Reserve Upgrade		24.0	1.3	6.9	3.0					7.5	42.7	10-99	DCS			5.3	0.4	0.6	4.1	3.8	4.4	4.9	1.4	24.8	11-99	SLMP			7.6	10.6	2.0	17.7	24.2	32.2	35.0	444.2	573.4	12-99	MIDS			9.3	47.0	49.7	56.5	48.2	48.9	40.5	90.0	390.0	20-99	NACES P3I			6.9	4.5	2.7					4.8	18.9	11-00	ALR-67(V)3				1.6	0.9	1.5	1.5	1.5	1.5	9.1	17.6	21-00	USMC F/A-18A UPGRADE				57.9	22.7	11.6	11.8				104.1	24-00	JHMCS				2.0			13.4	16.8	18.1	32.7	83.0	XX-03	AIM-9X							0.3	3.3	2.7	2.5	8.9	TOTAL		417.5	141.9	171.4	319.7	212.6	197.9	231.4	249.4	256.5	1,131.7	3,329.9	RESERVE INCLUDED IN TOTAL			26.467	6.132	7.057	3.118						
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																																																																																																																																																								
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39-92	AN/ARC-210	9.3	0.3	0.1	1.1	1.9	2.4	1.5	1.2			17.9																																																																																																																																																																																																																																																								
19-94	Common Configuration	102.2	17.0	21.9	17.9	19.4	31.5	56.5	70.2	82.1	214.9	633.7																																																																																																																																																																																																																																																								
36-94	GPS	29.0	2.8	9.7	8.8	8.1	9.8	4.4	1.3	2.0		75.8																																																																																																																																																																																																																																																								
38-94	AN/APG-73 RUG	35.8	15.1	18.8	56.9	18.5	3.7	4.2	18.0	16.6	0.2	187.9																																																																																																																																																																																																																																																								
12-96	PIDS	27.8	6.6	11.3	1.9	1.5	0.4				185.5	235.0																																																																																																																																																																																																																																																								
3-97	ATARS	62.1	58.2	41.9	55.8	23.8					12.7	254.5																																																																																																																																																																																																																																																								
23-98	Naval Reserve Upgrade		24.0	1.3	6.9	3.0					7.5	42.7																																																																																																																																																																																																																																																								
10-99	DCS			5.3	0.4	0.6	4.1	3.8	4.4	4.9	1.4	24.8																																																																																																																																																																																																																																																								
11-99	SLMP			7.6	10.6	2.0	17.7	24.2	32.2	35.0	444.2	573.4																																																																																																																																																																																																																																																								
12-99	MIDS			9.3	47.0	49.7	56.5	48.2	48.9	40.5	90.0	390.0																																																																																																																																																																																																																																																								
20-99	NACES P3I			6.9	4.5	2.7					4.8	18.9																																																																																																																																																																																																																																																								
11-00	ALR-67(V)3				1.6	0.9	1.5	1.5	1.5	1.5	9.1	17.6																																																																																																																																																																																																																																																								
21-00	USMC F/A-18A UPGRADE				57.9	22.7	11.6	11.8				104.1																																																																																																																																																																																																																																																								
24-00	JHMCS				2.0			13.4	16.8	18.1	32.7	83.0																																																																																																																																																																																																																																																								
XX-03	AIM-9X							0.3	3.3	2.7	2.5	8.9																																																																																																																																																																																																																																																								
TOTAL		417.5	141.9	171.4	319.7	212.6	197.9	231.4	249.4	256.5	1,131.7	3,329.9																																																																																																																																																																																																																																																								
RESERVE INCLUDED IN TOTAL			26.467	6.132	7.057	3.118																																																																																																																																																																																																																																																														

CLASSIFICATION:

DD Form 2454, JUN 86

UNCLASSIFIED

MODIFICATION TITLE **Correction of Discrepancies Identified during Preliminary Evaluation, Subsequent Flight Test Programs and Fleet Operations (OSIP 11-84)**

MODELS OF SYSTEM AFFECTED:

F/A-18A/B/C/DTYPE MODIFICATION: **SAFETY /RELIABILITY/IMPROVEMENT**

DESCRIPTION/JUSTIFICATION:

*Corrections to discrepancies found during testing and evaluation can sometimes be incorporated into production aircraft, effective with the physical configuration audit which establishes the product baseline of the aircraft. However, when this cannot be done due to time constraints, retrofit of the changes into already delivered aircraft requires funding through the Aircraft Modification Program. Additionally, deficiencies discovered during fleet operations must be corrected. The unacceptable alternative to retrofiting would be multiple configurations in the fleet, which will create maintenance and supply problems, and in many cases the mission capability of the aircraft would be adversely affected as well as reduced service life. Corrections to the following items/conditions are required:

External Stores EMI Protection (ECP 087S1) Auto AC Bus Isolation (ECP 121R1) Battery Control Relay Unit (ECP 165R1) FY86 Block Upgrade (ECP 178R1C1) Center Fuselage Structural Mods (ECP 241R1) Dorsal Longeron (ECP 251R1) 470.5 Bulkhead (ECP 262) Righthand AMAD Bay (ECP 267) Y508 Former (ECP 276) AC Bus Wiring MOD (ECP 284) AFT Engine Mount (ECP 305R1) Y657.35 Engine Bay Door Former (ECP 306) Main Landing Gear (MLG) Planing Link (ECP 311) MLG Trunnion Upgrade (ECP 319) Y488 Bulkhead (ECP 320) Deployable Flight Incident Recorder (ECP 321) Wing Fatigue Repair (ECP 353) MLG Shoulder Bolt (ECP 355) ASPJ System Improvement (ECP 364) Y470 Bulkhead Improvement (ECP 365) #1 Fuel Cell Floor (ECP 367) MLG Retract Actuator (ECP 375) Fretting on Formers & Spindles (ECP 391) Wing Attach Longeron Improvement (ECP 393) Fuselage Skin, Y518 to Y534 (ECP 402) Encoder/Decoder Silicone Gasket (ECP 414) Inlet Duct Skin at Y453 (ECP 417) Y470.5 Bulkhead MLG Trunnion (ECP 428) Speed Brake Trough (ECP 440) Outboard Aileron Improvements (ECP 463R1) SUU-63 Wing Pylon Door Panel (ECP 488) Y470.5 Bulkhead Fatigue Change (ECP 492) Fuselage Skin at Y453 (ECP 498) Nacelle Skin Fatigue Improvements (ECP 501) LAU-115 Sparrow Mod (ECP 506) Improvement of Inner Wing SPAR (ECP 544) Fuel Barrier Web (ECP 548) Wing Drag Longeron (ECP 550) Y326.5 Plate Nut (ECP 561) Lower Center Keel Fire Hazard (ECP 562) TON Anomaly (ECP 571) Aileron/Trailing Edge Flap (ECP 574) Hydraulic Temp Gauges (ECP XXX) Environment Control System Wiring (NI 742) Wing Fuel Dams (ECP NI 796) MLG Trunnion Assembly (NI 824) Heat Exchanger (ECP NI 827) Night Vision Display System (NVDS) (ECP NI 830) Trailing Edge Flap (NI 839) Birdstrike Res Windshield (NI 843) Aileron Hinge Mod (NI 844) ANTI G VALVE (ECP XXX) Fuel Cell Floor Crack (ECP XXX) Side Fuselage Crack (ECP XXX) Bay 3 & 4 Shelf Improvement (ECP XXX) Front SPAR Crack (ECP XXX)	Provide for the application of external stores EMI Protection. Modifies the 50A Battery Charging Converter installation to automatically isolate the busses and reset the generators following a dual power outage. Safety modification to the utility/emergency battery control circuits and adds a battery relay control unit. Prevents inadvertent battery discharge. Increases the power handling capabilities of the four port antenna and the RF switchable filter in order to accommodate the RF power output requirements of the ASPJ System. Improves fatigue for the Dorsal Deck, Duct Skin rivets at Y442, ECS Inlet Casting, and Y419 Nacelle Former at Ramp Truss Attachment. Life extension modification to the Dorsal Longeron. Improves the fatigue life of the Y470.5 Bulkhead Outer Cap. Reliability and maintainability improvement to the interference between the motive flow tube and the hot fuel recirculation tube. Structural improvement of the Y508 Former by increasing the flange thickness and reinforcing the former with integral ribs. Reliability and maintainability improvement to the common cable routing of the primary/backup AC power distribution wire Safety modification improves the aft engine mount support to prevent cracking in the aft engine mount support fitting Modifies the existing door former to prevent cracking. Safety modification to the existing planing link assembly. Belleville washers spring is replaced with nested external compression springs to provide additional overcenter locking force and stroke capability Safety modification reconfigures and strengthens the MLG trunnion assembly to prevent catastrophic failure upon landing or takeoff Modifies the Y488 bulkhead to reduce structural stress and improve fatigue life Adds a Deployable Flight Incident Recorder Set (DFIRS) to provide nonvolatile storage of the last 30 minutes of flight incident data in a deployable unit Modifies the fastener holes in the Wing Panel Forward Spar and the #4 Intermediate Wing Spar to increase fatigue life. Safety modification provides new shoulder bolts to correct a deficiency concerning elongation of the AFT bolt hole in the MLG Door Actuator Support Fitting. Improves reliability and maintainability by improving the cooling system and correcting transmit switchable filter qual test problems. Modifies the Y470 bulkhead to reduce structural stress and improve fatigue life. Safety modification to improve the fuel cell floor strength to prevent cracking during catapult. Redesigns the MLG Retract Actuator Support Fitting and the Flange of Y470.5 Bulkhead where the fitting attaches and revises hydraulic timing to lengthen the Fatigue Life of the structures. Safety modification to correct fretting observed on outboard formers of horizontal stabilizer. Improves the fatigue of the longeron. Modifies exterior fittings and adds and internal bathtub to strengthen the area, reduce structural stress, and improve fatigue life. Safety modification to the existing access cover to eliminate fuel leaks from the integral wing tanks into the fuselage encoder/decoder. Addresses the retrofit design which will provide 12,000 SFH of life without cracks for the Inlet Duct Skin. Corrects the deficiency in the MLG Trunnion support at Y470.5 bulkhead. Modifies the existing speed brake trough area to strengthen it and improve fatigue life. Reliability and maintainability improvement to the existing aileron hinge and hinge fairing to increase fatigue life. Safety modification to the existing door panel to preclude loss of the door during flight Modifies the thickness of the existing bulkhead web to increase strength and improve fatigue life. Safety modification to strengthen existing fasteners attaching the P/N 74A324350 former to Y453 bulkhead. Retrofit the Inlet Nacelle Skin to correct acoustic vibration related fatigue failures. Modifies the lower rail of the LAU-115 to strengthen the area of the AIM-7 Sparrow missile forward hanger interface and improve fatigue life. Strengthens the existing inner wing spar to improve fatigue life. Safety improvement to the existing fuel barrier web to prevent fuel leaks. Structural improvement to the Wing Drag Longeron due to tabs attached to the closeout webs were cracking during installation. Modifies the existing fasteners at the Y326.5 Bulkhead to improve fatigue life. Safety improvement to the secondary pressure regulator bay to eliminate fire hazards. Corrects the deficiency of the three second Tone Anomaly in the CC. Provides a full-life improvement for aircraft degradation caused by cracked trailing edge flap and aileron hinges. Improves the reliability of the hydraulic temperature gauges. Modifies wiring to the number 3 Relay Panel Assy to connect the Left Main Gear (LMG) Weight on Wheels (WOW) Relay ABD the Dump/RAM Dump Relay. Safety improvement modifies the inner wing inboard closure rib to prevent fuel leaks. Safety improvement to the MLG trunnion assembly to improve fatigue life and prevent failed landing gear mishaps. Provides for the removal of the nickel core and replaces with a more reliable stainless steel and nickel core. Adds capability to the lighting system to make the NVDS compatible. Safety modification to the trailing edge flap to correct flap departures while in flight. Safety modification to the windshield to protect against birdstrikes during flight. Safety modification to the current aileron hinge to prevent aileron departures, which cause severe damage to the aircraft and pose a threat to safety of flight. Improves pilot G-Load tolerance as part of the Navy Combat Edge (NCE) Anti-G Protection System. Safety modification to correct cracks at Y431, Y442, and Y453 in the fuel cavity floor deck centerline under tank two and three. Safety improvement to the fatigue life of the forward skin section of the chem-milled panels. Supports retrofit of Interrogator Transponder (CIT) Identification Friend or Foe (IFF) system into the F/A-18 Weapon System. Strengthens the existing front inner wing SPAR to improve fatigue life.
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DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Each change has been or will be tested prior to installation in the F/A-18.
(ECPs Jax 021, Jax 032, and 342 were moved to OSIP 1994.)

Unit cost variances due to:

- Many ECP Kits were/are provided to the Navy at no additional costs (warranty kits).
- Some ECPs have numerous Technical Directives with different unit costs.

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: **Correction of Discrepancies Identified during Preliminary Evaluation, Subsequent Flight Test Programs and Fleet Operations (OSIP 11-84)**MODELS OF SYSTEM AFFECTED: **F/A-18A/B/C/D**TYPE MODIFICATION: **SAFETY /RELIABILITY/IMPROVEMENT**

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 121R1/Auto AC Bus Isolation	356	0.7																			356	0.7
ECP 165R1/Battery Control Relay Unit	302	0.5																			302	0.5
ECP 178/FY86 Block Upgrade																						
ECP 241R1/Center Fuselage Structural Mods																						
ECP 251R1/Dorsal Longeron	2,750	2.1			257	4.3	172	2.2	70	0.3	52	1.8									3,301	10.7
ECP 262/470.5 Bulkhead																						
ECP 267R1/Righthand AMAD Bay	250	0.0																			250	0.0
ECP 276/Y508 Former																						
ECP 284/AC Bus Wiring MOD																						
ECP 305/AFT Engine Mount																						
ECP 306/Y657.35 Engine Bay Door Former	664	0.9																			664	0.9
ECP 311/Main Landing Gear (MLG) Planing Link	10	0.0																			10	0.0
ECP 319/MLG Trunnion Upgrade																						
ECP 320/Y488 Bulkhead	473	0.5																			473	0.5
ECP 321/Deployable Flight Incident Recorder																						
ECP 353/Wing Fatigue Repair	105	0.0																			350	0.0
ECP 355/MLG Shoulder Belt	350	0.0																				
ECP 364/ASPJ System Improvement																						
ECP 365/Y470 Bulkhead Improvement	814	0.1																			814	0.1
ECP 367/#1 Fuel Cell Floor	491	0.0																			491	0.0
ECP 375/MLG Retract Actuator	1,266	0.0																			1,266	0.0
ECP 391/Fretting on Former's & SpindleS	532	0.0																			532	0.0
ECP 393/Wing Attach Longeron Improvement																						
ECP 402/Fuselage Skin, Y518 to Y534	1,291	0.0			50	0.3	50	0.6	52	0.5	0.0	0.4									1,473	1.8
ECP 414/Encoder/Decoder Silicone Gasket																						
ECP 417/Inlet Duct Skin at Y453	570	0.9									55	0.2									625	1.1
ECP 428/Y470.5 Bulkhead MLG Trunnion	2	0.1																			2	0.1
ECP 440/Speed Brake Trough	591	1.0																			591	1.0
ECP 463R1/Outboard Aileron Improvements																						
ECP 488/SUU-63 Wing Pylon Door Panel	1,151	0.7					200	0.2			200	0.2	230	0.3							1,781	1.4
ECP 492/Y470.5 Bulkhead Fatigue Change	739	2.2					100	0.2			75	0.2									914	2.6
ECP 498/Fuselage Skin at Y453	195	0.0					164	0.3	100	0.2	87	0.2	164	0.4							710	1.0
ECP 501/Nacelle Skin Fatigue Improvements	517	2.2					100	0.8	70	0.6	48	0.4									735	4.0
ECP 506/LAU-115 Sparrow Mod																						
ECP 544/Improvement of Inner Wing SPAR	29	0.3																			29	0.3
ECP 548/Fuel Barrier Web	205	0.0	220	0.5	30	0.1	150	0.8	153	0.8											758	2.3
ECP 550/Wing Drag Longeron					20	0.0	99	0.5	100	0.6	100	0.7	100	0.8	20	0.2	150	1.5	187	2.1	776	6.3
ECP 561/Y326.5 Plate Nut	300	0.1	225	0.1																	525	0.2
ECP 562/Lower Center Keel Fire Hazard	454	0.1																			821	0.4
ECP 571/TON Anomaly							150	0.0	150	0.0	150	0.0	200	0.0			200	0.0			850	0.1
ECP 574/Aileron/Trailing Edge Flaps	56	2.4			162	4.5	200	6.1	140	4.2	151	5.2	100	3.7	50	1.9	150	5.9	253	10.3	1,262	44.1
ECP XXX/Hydraulic Temp Guages							150	0.2	100	0.1	75	0.1	120	0.2			150	0.3	255	0.5	850	1.3
NI 742/Environment Control System Wiring																						
NI 796/Wing Fuel Dams	180	0.1							150	0.2	126	0.2	29	0.1							485	0.5
NI 824/MLG Trunnion Assembly	382	8.1									60	1.7	68	2.1							510	11.9
NI 827/Heat Exchanger	37	0.4																			37	0.4
NI 830/Night Vision Display System (NVDS)	14	0.3																			14	0.1
NI 839/Trailing Edge Flap	1,250	9.5																			1,250	9.5
NI 843/Birdstrike Res Windsheild					51	0.0															51	0.0
NI 844/Aileron Hinge Mod																						
ECP XXX - ANTI G VALVE	800	1.0																			800	1.0
ECP XXX - Fuel Cell Floor Crack							150	0.7	100	0.5	100	0.5	100	0.5			150	0.9	50	0.4	650	3.5
ECP XXX - Side Fuselage Crack									75	0.2	75	0.2	100	0.3			150	0.5	200	0.8	600	1.9
ECP XXX - Bay 3 & 4 Shelf Improvement									100	0.1	85	0.1	86	0.1			86	0.1	250	0.4	607	0.7
ECP XXX - Front SPAR Crack									50	0.5	130	1.6	115	1.6	50	0.8	150	2.4	238	4.2	733	11.0
Installation Kits N/R		2.2		0.5		0.2		0.5		0.9		1.2		0.0				1.5				7.0
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data						0.4		0.8		0.8		0.9		1.0		1.0		1.0				5.9
Training Equipment																						
Support Equipment		1.5																				
ILS		2.4		1.3		4.4		13.6		19.0		19.7		20.0		16.4		18.2		30.5	0	145.6
Other Support																						
Interim Contractor Support																						
Installation Cost	12,264	110.9	1,195	15.4	1,459	23.0	1,618	18.9	1,754	28.2	1,774	23.3	1,600	30.2	1,696	31.6	1,201	20.9	3,292	77.0	27,853	379.4
TOTAL PROCUREMENT		151.3		17.8		37.2		46.3		57.7		58.8		61.4		51.7		53.2		126.1		661.6

Exhibit P-3a

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: AN/ARC-210 ELECTRONIC PROTECTION (EP) COMBINATION RADIO (OSIP 39-92)MODELS OF SYSTEM AFFECTED: F/A-18 C&D AircraftTYPE MODIFICATION: CAPABILITY IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 (ORD# 486-88-93) is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for EP interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for carrier based TACAIR; VHF FM for close air support and maritime channels; AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS. F/A-18 ARC-210 requirements will be satisfied by retrofitting Lot X through Lot XVI and forward fitting Lot XVII through Lot XXI.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

F/A-18 was the lead aircraft for the AN/ARC-210 development program; therefore, retrofit procurement began in FY92. AN/ARC-210 Milestone III was approved in April 1994. First article test completed in January 1994. The additional requirements shown in this budget for FY2001 - 2005 reflect the fleet's desire for a common communications capability for Lots X and above F/A-18C/D. ARC-210 radios removed from other aircraft during DCS upgrade will be installed in F/A-18C/D Lots X and XI.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Lot XII through XXI Kit	79	1.3																			79	1.3
Lot X through XI Kit							36	1.1	60	1.9	45	1.5									141	4.6
Installation Kits N/R		0.8																				0.8
Installation Equipment **																						
Lot XII through XXI Kit	114	5.6																			114	5.6
Lot X through XI Kit																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.3				0.1																0.4
Training Equipment																						
Support Equipment																						
ILS								0.0					0.02		0.03							0.1
Other Support																						
Interim Contractor Support																						
Installation Cost	0.1	1.4	0.0	0.3							36	0.9	60	1.5	45	1.2					220	5.3
TOTAL PROCUREMENT		9.3		0.3		0.1		1.1		1.9		2.4		1.5		1.2						17.9

Notes:

** Quantities refer to number of radios (2/aircraft). The equipment and common logistics requirements for this OSIP have been funded in the AN/ARC-210 Common OSIP (4-94) starting in FY94.

MODELS OF SYSTEMS AFFECTED: F/A-18 C&D Aircraft MODIFICATION TITLE: AN/ARC-210 ELECTRONIC PROTECTION (EP) COMBINATION RADIO (OSIP 39-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: PUBLIC/PRIVATE COMPETITION AND AT NAVAL AVIATION DEPOTS.

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1999 _____ FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: Mar-02

DELIVERY DATE: FY 1999 _____ FY 2000: Mar-02 FY 2001: Mar-03 FY 2001: Mar-04

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (79) kits	62	1.4	17	0.3																	79	1.7
FY 1999 () kits																						
FY 2000 (36) kits											36	0.9									36	0.9
FY 2001 (60) kits													60	1.5							60	1.5
FY 2002 (45) kits															45	1.2					45	1.2
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	62	1.4	17	0.3							36	0.9	60	1.5	45	1.2					220	5.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	62	5	4	4	4															18	18	15	15	15	15
Out	62	5	4	4	4															18	18	15	15	15	15

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	12	11	11	11						220
Out	12	11	11	11						220

Exhibit P-3a**INDIVIDUAL MODIFICATION**MODIFICATION TITLE: Common Configuration (OSIP 19-94)MODELS OF SYSTEM AFFECTED: F/A-18 A/B/C/DTYPE MODIFICATION: CAPABILITY IMPROVEMENTS / SAFETY

DESCRIPTION/JUSTIFICATION:

The F/A-18 Cockpit Video Recording System (CVRS) requires an upgrade to improve operational debriefing, increase resolution and recording time, and improve training. During Operation Desert Storm, deficiencies of the current F/A-18 CVRS became obvious. The current CVRS consists of one monochrome camera, a video tape recording (VTR) panel switch, and a 3/4 inch tape recorder. The replacement CVRS consists of three color cameras, a VTR panel switch and two HI-8MM recorders. Also included in the new system is an enhanced ground playback station that will allow the simultaneous playback of four images from two separate aircraft. Replacement of the current CVRS in the F/A-18 will provide the following capabilities: improved operational debriefing (BDA), enhanced fleet training, the ability to record the display from the right Digital Display Indicator (DDI) and either the Heads-Up Display (HUD) of the left DDI simultaneously in color, greater commonality with existing commercial and private playback equipment, increased recording time, enhanced resolution and an overall reduction in system size and weight. The AN/AYK-14(V) Very High Speed Integrated Circuit (VHSIC) Processor Module has three important features: a new computer chassis, VHSIC processor cards and 1M/W memory on the processor cards that allows necessary growth through the 1990's and beyond. With the F/A-18 C/D out of production one year earlier than originally projected, it has created requirements in the Modification Budget Activity. These additional requirements are ancillary equipment (Targeting Forward Looking Infrared (FLIR) and Digital Storage Units (DSUs)), logistics support and Operational Flight Program (OFP) software. The Advanced Targeting FLIR (ORD# 437-88-96) will provide the F/A-18C/D with a significantly enhanced capability to detect, track, and attack air and ground targets. New laser guided and GPS standoff weapon systems, and higher altitude attack profiles, require improved performance over the current AAS-38/46 Targeting FLIR. The ATFLIR is designed to provide a quantum leap in operational effectiveness to fully support the standoff precision strike mission. Improved reliability and maintainability technology will increase operational availability while reducing life cycle costs. The F/A-18 Tactical Automated Mission Planning System (TAMPS) Mission Planning Module (MPM) provides capabilities and displays required by the aircrew to plan and execute a mission from a cockpit perspective by providing a set of aircraft planning functions, report, and graphic display options. VPM & ATFLIR - "O" Level installs. ECP JAX 023 (High Altitude Laser), ECP JAX 021 (NAVFLIR Adapter), and ECP 342 (AN/ASQ-173 Laser Detector/Tracker) moved from OSIP 1184 (FY00 & out).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

CVRS utilizes moderately militarized HI-8MM video recorders that are currently available (no development required) with CVRS installed. The AN/AYK-14 is fully developed. It was production incorporated into Lot XV and subsequent F/A-18C/Ds and has had retrofit funding since 1994. ATFLIR development began in FY1997. The E&MD contract was awarded in March, 1998. Preliminary Design Review and Critical Design Review has been completed. TECHEVAL is scheduled for FY2001 with OPEVAL following in FY2002. Functionality on the F/A-18C/D will be with OFP 17C.

Exhibit P-3a

MODIFICATION TITLE: Common Configuration (OSIP 19-94)

MODELS OF SYSTEM AFFECTED: F/A-18 A/B/C/D

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
INSTALLATION KITS																						
NI818/CVRS	219	1.9	95	1.0																	314.0	2.9
CDII-045/VPM("O"Level)	559	57.0																			559.0	57.0
CDII-051/VPM("O"Level)	47	4.4	30	3.1	121	11.3	19	1.8													217.0	20.6
INSTALLATION KITS N/R		17.5		3.2		1.9		2.5		3.5		3.0		1.6		1.4		1.5				36.1
INSTALLATION EQUIP.																						
NI818/CVRS																						
CDII-045/VPM("O"Level)																						
CDII-051/VPM("O"Level)	291	7.6																			291.0	7.6
ATFLIR("O"Level)									2	5.3	4	9.0	17	34.2	21	40.7	25	47.8	111	210.3	180.0	347.3
INSTALLATION EQUIP. N/R										2.0		1.0										2.9
ENGINEERING CHANGE ORDERS											1.2		1.7							0.7		3.6
DATA				2.1		1.8						0.9		0.6		0.5		0.5		0.6		7.0
TRAINING EQUIPMENT						0.3						2.4		0.3		1.2		0.7		1.3		6.3
SUPPORT EQUIPMENT		10.9		6.2		5.2		9.0		8.0		11.5		16.2		24.0		26.5				117.5
ILS		1.1		0.5		0.8		3.0		0.1		2.1		1.8		2.4		5.1		2.0		18.8
OTHER SUPPORT																						
INTERMIN CONTRACT SUPPORT																						
Installation Cost	159	1.9	60	0.9	54	0.7	230	1.8	144	0.6	80	0.4									727	6.2
TOTAL PROCUREMENT		102.2		17.0		21.9		17.9		19.4		31.5		56.5		70.2		82.1		214.9		633.7

Exhibit P-3a

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: F/A-18 A/B/C/DMODIFICATION TITLE: Common Configuration (OSIP 19-94)METHOD OF IMPLEMENTATION: CVRS - FIELD MOD TEAMADMINISTRATIVE LEADTIME: N/APRODUCTION LEADTIME: 16 MonthsCONTRACT DATES: FY 1998: N/AFY 1999: N/AFY 2000: N/ADELIVERY DATE: FY 1998: N/AFY 1999: N/AFY 2000: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (314) kits	159	1.9	60	0.9	24	0.3	71	1.0													314	4.2
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
To Complete () kits																						
TOTAL	159	1.9	60	0.9	24	0.3	71	1.0													314	4.2

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	159	15	15	15	15	0	0	0	24	24	24	23	0	0	0	0	0	0	0	0	0
Out	159	15	15	15	15	0	0	0	24	24	24	23	0	0	0	0	0	0	0	0	0

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	0	0	0	314
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	314

Exhibit P-3a

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: F/A-18 A/B/C/D MODIFICATION TITLE: Common Configuration (OSIP 19-94)METHOD OF IMPLEMENTATION: TFLIR - FMTADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 16 MonthsCONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: N/ADELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (413) kits					30	0.3	159	0.7	144	0.6	80	0.4									413	2.0
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
To Complete () kits																						
TOTAL					30	0.3	159	0.7	144	0.6	80	0.4									413	2.0

Installation Schedule * Prior year install purchase was in OSIP 11-84

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	30	51	36	36	36	36	36	36	36	36	36	8	0
Out	0	0	0	0	0	0	0	0	30	51	36	36	36	36	36	36	36	36	36	8	0

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	0	0	0	413
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	413

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: **F/A-18 Global Positioning System (GPS) (OSIP 36-94)**

MODELS OF SYSTEM AFFECTED: **F/A-18A/B/C&D Aircraft**

TYPE MODIFICATION: **SAFETY / CAPABILITY IMPROVEMENT**

DESCRIPTION/JUSTIFICATION:

GPS (ORD# 401-88-95) is a space-based worldwide radio navigation aid that provides precise position, velocity, and time data under all-weather conditions twenty-four hours a day, and is proposed to replace land-based TACAN. Incorporation of the GPS in the F/A-18 aircraft provides the following: accurate navigation position and velocity, precision close air support, onboard sensor positioning, command and control guidance, search and rescue guidance, accurate all-weather air drops and accurate time standard. The F/A-18 GPS requirements will be satisfied with EGI by retrofitting the EGI into Lot VI through Lot IX. F/A-18C/D requirements will be satisfied with the Miniature Airborne GPS Receiver (MAGR), by retrofitting Lot X through Lot XVI, and forward fitting into Lot XVII through Lot XXI.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Embedded Global Positioning System (GPS) and Inertial Navigation System (INS) (EGI) program is a joint multi-user NDI acquisition which achieved Milestone III in FY94. Contract award was 4 March 1994, with Engineering Design Review completed in July 1994.

The Embedded GPS/INS (EGI) system was supposed to be an NDI system, however, it has required a significant amount of development, which has resulted in schedule slips. As a result, F/A-18 has been adversely impacted in the following areas:

1. F/A-18A/B/C/D can no longer meet the Congressional mandate to have GPS installed in all A/C by the year 2000.
2. F/A-18 Mission Computer S/W testing to incorporate EGI functionality has experienced continual slips due to EGI hardware immaturity.
3. The immaturity of the EGI has resulted in a delay of the Validation and Verification (Val/Ver) of the EGI A-Kits in all versions of the F/A-18.
4. As a result of the above impacts, a decision was made to install the Miniature Airborne GPS Receiver (MAGR) in F/A-18 C/D Lot X through Lot XVI A/C. MAGR is a lower risk option and has been installed as a forward fit in Lot XVII and above A/C. Since EGI performance has not completed testing, MAGR is the only option that ensures the most rapid, low risk retrofit. This plan results in the least impact to further F/A-18C/D modifications. Furthermore, a decision was also made to continue with the development of the EGI in order to meet GPS requirements for the F/A-18A/B (Lot IX and below) . F/A-18 A/B's cannot be retrofitted with a MAGR integration due to space restrictions and airframe differences. In summary, F/A-18 has had to develop new integration plans for GPS that now include the integration of both MAGR and EGI. EGI A-Kits were put on order using FY96/97/98 funding based on an NDI assumption, however due to above mentioned reasons, the EGI A-Kits now need to be converted to MAGR A-Kits with no pricing impact.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Lot VI through IX Kit	67	5.1					68	1.0	67	0.9	38	0.6									240	7.5
Lot X through XVI Kit	282	3.8	45	0.6			116	0.7													443	5.2
Installation Kits N/R		16.1		2.1		4.4																22.6
Installation Equipment																						
Lot VI through IX Kit																						
Lot X through XVI Kit					150	4.6	157	4.9	100	3.2	36	1.1									443	13.7
Installation Equipment N/R																						
Engineering Change Orders													1.1				1.0					5.1
Data											3.0											
Training Equipment		2.0																				2.0
Support Equipment		1.8																				1.8
ILS		0.2		0.1		0.2		0.1			0.1		0.2		0.6		1.0					2.4
Other Support																						
Interim Contractor Support																						
Installation Cost			1	0.1	36	0.5	125	2.2	175	4.0	158	5.0	167	3.2	21	0.7					683	15.5
TOTAL PROCUREMENT		29.0		2.8		9.7		8.8		8.1		9.8		4.4		1.3		2.0				75.8

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18A/B/C&D Aircraft MODIFICATION TITLE: F/A-18 Global Positioning System (GPS) (OSIP 36-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Navy Depot Field Mod Team at Five (5) Locations

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1998 _____ FY 1999: Jun-99 FY 2000: Mar-00 FY 2001: Mar-01

DELIVERY DATE: FY 1998 _____ FY 1999: Dec-00 FY 2000: Sep-01 FY 2001: Sep-02

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (394) kits			1	0.1	36	0.5	125	2.2	175	4.0	57	1.8									394	8.6
FY 1999 (0) kits																						
FY 2000 (176) kits											101	3.1	83	1.6							184	4.7
FY 2001 (149) kits													67	1.3							67	1.3
FY 2002 (0) kits													17	0.3	21	0.7					38	1.0
FY 2003 (6) kits																						
FY 2004 (0) kits																						
FY 2005 (11) kits																						
To Complete (51) kits																						
TOTAL			1	0.1	36	0.5	125	2.2	175	4.0	158	5.0	167	3.2	21	0.7					683	15.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	1	0	0	0	36	30	31	32	32	43	44	44	44	39	38	40	41	41	42	42	42
Out	0	0	0	0	1	0	0	0	36	30	31	32	32	43	44	44	44	39	38	40	41	41	42	42	42

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	21	0	0	0	0	0	0	0	0	683
Out	21	0	0	0	0	0	0	0	0	683

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94)TYPE MODIFICATION: CAPABILITY IMPROVEMENTMODELS OF SYSTEM AFFECTED: F/A-18 C&D Aircraft

DESCRIPTION/JUSTIFICATION:

THE F/A-18 radar (AN/APG-65), requires an upgrade to improve electronic counter-countermeasure (ECCM) performance against improved threat electronic countermeasures (ECM). This threat ECM improvement has partial resulted from compromises in the F/A-18 radar performance against various threat electronic warfare systems. The AN/APG-73 radar follows and capitalizes on AN/APG-70 and AN/APG-71 developmental and value engineering programs to maximize shop replaceable assembly (SRA) commonality. ORD # 199-05-88 (Radar Upgrade Phase I) and ORD # 022-05-83 (Radar Upgrade Phase II).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Forward fit of the AN/APG-73 was incorporated into Lot 16 (Block 43) and subsequent aircraft. Rug Phase I was approved for full rate production of retrofit units in September 1996. This OSIP reflects retrofit of Lot 14 through Lot 16 (Block 42) aircraft. A Pre-planned Product Improvement (P3I) Phase II to the RUG program developed improved hardware and software for an all-weather Reconnaissance (RECCE) strip map mode. Additional modes can be incorporated with software changes as required in the future. Development of RUG Phase II completed in FY 1998 and retrofit procurements began in FY 1999.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E (0204136N/E2065)		239.9		3.6																		243.5
PROCUREMENT																						
Installation Kits																						
ECP 508 / RUG - Phase I Kit	16	33.7	4	8.5	5	9.9	26	50.9	7	14.0	0	0.0	0	0.0	8	16.4	8	16.2	0	0.0	74	149.6
ECP 569 / RUG - Phase II Kit					7	3.6	7	3.7	7	3.5	7	3.5	6	3.0	0	0.0					34	17.4
Installation Kits N/R		0.3		4.8		0.4																5.5
ECP 508 / RUG - Phase I Kit																						
ECP 569 / RUG - Phase II Kit																						
Installation Equipment																						
ECP 508 / RUG - Phase I Equip																						
ECP 569 / RUG - Phase II Equip																						
Installation Equipment N/R							2.2															
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment		1.3		1.8		0.9																4.1
ILS		0.2				3.9		0.0		0.6		0.0		1.1		1.6		0.2		0.0		7.5
Other Support																						
Interim Contractor Support																						
Installation Cost	10	0.2	3	0.0	3	0.0	7	0.2	20	0.4	8	0.2	7	0.2	0	0.0	8	0.2	8	0.2	74	1.4
TOTAL PROCUREMENT		35.8		15.1		18.8		56.9		18.5		3.7		4.2		18.0		16.6		0.2		187.9

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18 C&D Aircraft MODIFICATION TITLE: AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94)

METHOD OF IMPLEMENTATION: Phase I kits are Depot Level; Phase II kits are Organization level. Schedule below reflect RUG Phase I installs only.

ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1999: Jan-99 FY 2000: Jan-00

DELIVERY DATE: FY 1999: Jul-00 FY 2000: Jul-01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998& PY (20) kits	10	0.2	3	0.0	3	0.0	4	0.1													20	0.4
FY 1999 (5) kits							3	0.1	2												5	0.1
FY 2000 (19) kits									18	0.4	8										26	0.4
FY 2001 (7) kits													7	0.2							7	0.2
FY 2002 (0) kits																						
FY 2003 (0) kits																						
FY 2004 (8) kits																	8	0.2			8	0.2
FY 2005 (8) kits																			8	0.2	8	0.2
To Complete (0) kits																						
TOTAL	10	0.2	3	0.0	3	0.0	7	0.2	20	0.4	8	0.0	7	0.2			8	0.2	8	0.2	74	1.4

(\$ in Millions)

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	10	1	1	0	1	2	1	0	0	0	4	0	3	2	0	9	9	1	0	7	0
Out	10	1	1	0	1	2	1	0	0	0	4	0	3	2	0	9	9	1	0	7	0

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In	2	2	2	1	0	0	0	0	0	0	0	8	8	74
Out	2	2	2	1	0	0	0	0	0	0	0	8	8	74

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE:

POSITIVE IDENTIFICATION SYSTEM (OSIP 12-96)

MODELS OF SYSTEM AFFECTED:

F/A-18 C/D Aircraft

TYPE MODIFICATION:

CAPABILITY IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

The Positive Identification Systems (PIDS) will allow the F/A-18 to positively identify another aircraft. The requirement for positive identification of enemy and friendly aircraft arose from Desert Storm lessons learned and is a CNO high priority issue. Although Lot applicability is back to Lot X, FYDP funding represents an affordable plan. ORD # 446-88-96

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Forward fit of the PIDS (CIT) for the F/A-18 began in FY 1995 with the last block of Lot 19 aircraft. Retrofit kit procurement started in FY1996. Val/Ver kits were installed in FY98. Kit installation began in FY99. PIDS (CIT) had a successful OPEVAL with Software Configuration Set (SCS) 13C.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Lot X through XIX Kit	49	14.8	17	5.0	27	8.1													483	166.6	576	194.6
Lot XX through XXI Kit																						
Installation Kits N/R		4.1		1.1		1.3																6.6
Installation Equipment (Note 1)																						
Lot X through XIX Kit																						
Lot XX through XXI Kit																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.7				0.5																1.2
Training Equipment		2.1				0.6																2.7
Support Equipment		5.0				0.4																5.4
ILS		1.0		0.5		0.4		0.2		0.3		0.2										2.5
Other Support																						
Interim Contractor Support																						
Installation Cost					2	0.1	48	1.6	36	1.3	7	0.3							483	18.9	576	22.1
TOTAL PROCUREMENT		27.8		6.6		11.3		1.9		1.5		0.4								185.5		235.0

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18 C/D Aircraft MODIFICATION TITLE: POSITIVE IDENTIFICATION SYSTEM (OSIP 12-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: DEPOT LEVEL

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1999 May-99 FY 2000: Mar-00 FY 2001: FY 2002:

DELIVERY DATE: FY 1999 Nov-00 FY 2000: Sep-01 FY 2001: FY 2001:

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (66) kits					2	0.1	48	1.6	16	0.6											66	2.2
FY 1999 (27) kits									20	0.7	7	0.3									20	0.7
FY 2000 (0) kits																					7	0.3
FY 2001 (0) kits																						
FY 2002 (0) kits																						
FY 2003 (0) kits																						
FY 2004 (0) kits																						
FY 2005 (0) kits																						
To Complete (483) kits																			483	18.9	483	18.9
TOTAL					2	0.1	48	1.6	36	1.3	7	0.3							483	18.9	576	22.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	2	12	12	12	12	9	9	9	9	0	7	0	0	0	0	0	0
Out	0	0	0	0	0	0	0	0	2	12	12	12	12	9	9	9	9	0	7	0	0	0	0	0	0

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	483	576
Out	0	0	0	0	0	0	0	0	483	576

MODIFICATION TITLE: F/A-18 Advanced Tactical Airborne Reconnaissance System (ATARS) (OSIP 3-97)MODELS OF SYSTEM AFFECTED: F/A-18D(RC) AircraftTYPE MODIFICATION: OPERATIONAL UPGRADE

DESCRIPTION/JUSTIFICATION:

The need for a modern reconnaissance capability for the Navy and Marine Corps was clearly demonstrated during Operation Desert Shield/Desert Storm. Specific deficiencies noted were: poor connectivity with coalition forces, no wide-area standoff or all weather reconnaissance, and insufficient quantities of reconnaissance platforms. Lessons learned emphasized the value of timely imagery intelligence to support the tactical commander's concept of operations. In order to provide low to medium altitude, day/night, penetrating under-the weather overflight imagery to meet the Operational Requirement for the Navy and Marine Corps, the Navy is capitalizing on the work accomplished in the former ATARS Program and is leveraging the Air Force investment in ATARS to develop an ATARS-based Tactical Reconnaissance System for the F/A-18.

ATARS is a real-time/near real-time sensor suite for image acquisition, data storage, and data link. It consists of infrared and visible light sensors, two digital tape recorders, a digital data link, and a reconnaissance management system. The digital data link will transmit imagery and auxiliary data to the Joint Services Imagery Processing System (JSIPS) based ashore or to the JSIPS-N aboard ship. ORD # 427-88-96 (Reconnaissance Capable F/A-18).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Aircraft provisions to permit installation of a reconnaissance capability in the F/A-18 started in 1983, with the design and development of an engineering change to the F/A-18 which would allow internal carriage of reconnaissance sensors. This change was incorporated in the F/A-18D in 1992. All F/A-18Ds delivered will contain the reconnaissance modifications in their baseline configuration. Development of the Advanced Tactical Airborne Reconnaissance System (ATARS) began in 1988 with the Air Force as the lead service. ATARS was developed as a common reconnaissance system for use by the Air Force, Navy, and Marine Corps in both manned and unmanned platforms. The Air Force and the ATARS prime contractor mutually agreed to a cessation of effort on the ATARS contract in June 1993. In September 1993, the DoN conducted a quick-look evaluation of the ATARS equipment, in an "as is" condition, in the F/A-18. This evaluation indicated that the ATARS equipment has genuine potential to satisfy the Navy and Marine Corps overflight reconnaissance requirement in the F/A-18. Developmental and operational testing led to a go-ahead decision to procure four(4) LRIP-1 ATARS systems in February 1997. These units completed delivery in October 1998. Additional operational testing led to the go-ahead decision to procure six(6) LRIP-2 ATARS systems and four(4) data link pods in March 1998. These units began delivering in June 1999. An Early Operational Capability (EOC) was approved in May 1999 leading to a deployment of the system to Kosovo. Formal OPEVAL began in September 1999 leading to a Milestone III decision in March 2000 for Full Rate Production. Fleet Driven. "O" Level Installs.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$									Qty	\$
RDT&E 0603261N/E0534		209.1		12.8		1.5																223.4
PROCUREMENT																						
Installation Kits	5	33.3	12	47.1	5	26.3	8	38.0	11	12.2									8	12.7	49	169.6
Installation Kits N/R		24.7		9.1																		33.8
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment		2.1		1.0		2.9		12.5		0.2												18.7
ILS		2.0		1.0		1.5		1.0		2.6												8.0
Other Support (Testing)						11.3		4.3		8.9												24.4
Interim Contractor Support																						
Installation Cost																						
TOTAL PROCUREMENT		62.1		58.2		41.9		55.8		23.8										12.7		254.5

* INSTALL KIT COMPONENTS BREAKOUT:

ATARS SUITES	4	6	4	7	0													0		21
DATA LINK PODS	0	4	0	0	9													8		21
SQUADRON GROUND STATIONS	1	2	1	1	2													0		7

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: F/A-18A+ Avionics Upgrade for the U.S. Naval Reserve ECP-560 (OSIP 23-98)MODELS OF SYSTEM AFFECTED: F/A-18A TYPE MODIFICATION: Avionics Upgrade

DESCRIPTION/JUSTIFICATION:

This ECP is being executed using FY96 NGRE funding (\$21.2M) and FY99 NGRE funding (\$4.7M) to procure some of the required Government Furnished Equipment (GFE) and APN-5 funding as shown on this exhibit. The FY98 funding is a result of a Congressional add in the FY98 Appropriations Act.

Upgrade Avionics for F/A-18A Hornets (Lots 8 and 9) for the U.S. Naval Reserve Force. The Avionics Upgrade includes new avionic subsystems already incorporated or in process of being incorporated into USN/USMC and/or FMS F/A-18 aircraft. This ECP incorporates the following subsystems: AN/ARC-210(V) with HAVEQUICK II and SINCGARS; Digital Communication Systems (DCS) Receiver/Transmitter (RT-1794); Mission Computer CP-2360 (XN-8); Stores Management Set (SMS) (AN/AYQ-9); AMRAAM Capability (radar mod, launchers, weapons pylons and control stick); Digital Display Indicator (DDI) Upgrade; Mission Data Loader (AN/ASQ-215); Targeting FLIR provisions (AAS-38B).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ECP was approved in March 1998. All the equipment being incorporated in this ECP has completed development with the exception of DCS. DCS completes its development/integration with OPEVAL scheduled for second through third quarter of FY2000 along with OFP 15C.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits			27	7.3																	27	7.3
Installation Kits N/R			1	4.8	0.5		0.1														1	5.4
Installation Equipment				11.1	0.7		3.8														0	15.6
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.7			0.1															0.8
Other Support (Testing)				0.1	0.1		1.9															2.0
Support Equipment																						0.0
ILS				0.0	0.0		1.0		0.6										0.7			2.3
Interim Contractor Support																						
Installation Cost							1*	0.0	7	2.4									20	6.8	28	9.2
TOTAL PROCUREMENT				24.0		1.3		6.9		3.0										7.5		42.7

* FY00 Install Kit is VALVER

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18A MODIFICATION TITLE: F/A-18A+ Avionics Upgrade for the U.S. Naval Reserves

INSTALLATION INFORMATION: APPROX 3 KITS INSTALLED EVERY 6 WEEKS (ECP-560) (OSIP 23-98)

METHOD OF IMPLEMENTATION: ONE KIT INSTALLED BY CONTRACTOR FOR VAL/VER, OTHER INSTALLS TBD

ADMINISTRATIVE LEAD-TIME: 3 Months PRODUCTION LEAD-TIME: 12 Months

CONTRACT DATES: FY 1998: 02/99 FY 1999: FY 2000:

DELIVERY DATE: FY 1998: 02/00 FY 1999: FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & Prior (28) kits							1	0.0	7	2.4									20	6.8	28	9.2
FY 1999 () kits																					0	0.0
FY 2000 () kits																					0	0.0
FY 2001 () kits																					0	0.0
FY 2002 () kits																					0	0.0
FY 2003 () kits																					0	0.0
To Complete () kits																					0	0.0
TOTAL	0	0.0	0	0.0	0	0.0	1*	0.0	7	2.4	0	0.0	0	0.0	0	0.0	0	0.0	20	6.8	28	9.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	2	2	0	0	0	0
Out	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	2	2	0	0	0	0

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	0	0	20	28
Out	0	0	0	0	0	0	0	0	0	0	0	0	20	28

* NOTE: VALVER installation is incorporated into the "A" Kit procurement contract and the cost is included as part of the Installation Kits Non-Recurring in FY98.

* FY00 Install Kit is VALVER

MODIFICATION TITLE: **DIGITAL COMMUNICATIONS SYSTEM (DCS) (OSIP 10-99)**MODELS OF SYSTEM AFFECTED: **F/A-18 C/D Aircraft (Lots 10-21)**TYPE MODIFICATION: **CAPABILITY IMPROVEMENT**

DESCRIPTION/JUSTIFICATION:

The Digital Communications System (DCS) will consist of an upgraded AN/ARC-210 Receiver Transmitter (RT) [with embedded digital message transfer capability and embedded Communications Security (COMSEC)] installed in the F/A-18 and integrated with the F/A-18 weapons system [mission computer, controls & displays, and communication subsystem]. The DCS will utilize preformatted messages to communicate with standard USMC, USA, and USAF digital communications devices to facilitate Close Air Support (CAS), Deep Air Strike (DAS), and Tactical Air Control (TAC) missions. DCS will reduce voice communications requirements which tend to be slow, inaccurate, and susceptible to Meaconing, Interference, Jamming, and Intrusion (MIJI). DCS will enhance mission effectiveness by decreasing pilot workload which allows the pilot more time to counter increased threat capabilities. ORD# 486-88-98. This accelerates the procurement of 12 Digital Communications Systems into FY99. These radios will replace the current ARC-182 installed in Lot 10/11 as addressed above. Installation of these systems will also be accomplished with funding freed up from pulling the procurement forward.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-210 RT is being upgraded to a DCS RT. Initial Engineering Developmental Model (EMD) was delivered (using RDT&E,N resources) in FY1998 as scheduled. The F/A-18C/D requirements will be satisfied by retrofitting DCS into Lot X through Lot XXI. Functionality is in Operational Flight Program (OFF) 15C scheduled for fleet release in FY2000. Initial procurement of installation kits was awarded May 1999. F/A-18C/D Lots X and XI require an ACI and DCS radio. The funding on the installation equipment line is for the ACI only.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Lot XII through XXI Kit					28	0.2	69	0.4	60	0.4	72	0.8	64	0.7	72	0.8	70	0.8			435	4.1
Lot X through XI Kit											36	0.4	36	0.4	36	0.4	33	0.4			141	1.6
Installation Kits N/R						2.6																2.6
Installation Equipment																						
Lot XII through XXI Kit																						
Lot X through XI Kit											0.0	2.3	36	2.3	36	2.4	33	3.0			141	10.0
Installation Equipment N/R																						
Engineering Change Orders																						
Data						0.6																0.6
Training Equipment						0.6																0.6
Support Equipment						0.7																0.7
ILS						0.6				0.1		0.3		0.1		0.1		0.1				1.2
Other Support																						
Interim Contractor Support																						
Installation Cost									28	0.1	69	0.3	60	0.3	108	0.6	100	0.7	211	1.4	576	3.4
TOTAL PROCUREMENT		0.0		0.0		5.3		0.4		0.6		4.1		3.8		4.4		4.9		1.4		24.8

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

F/A-18 C/D Aircraft (Lots 10-21)

MODIFICATION TITLE: DIGITAL COMMUNICATIONS SYSTEM (DCS) (OSIP 10-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Navy Depot Field Mod Team

ADMINISTRATIVE LEADTIME:

6 Months

PRODUCTION LEADTIME:

24 Months

CONTRACT DATES:

FY 1999 May-99

FY 2000 Mar-00

FY 2001 Mar-01

FY 2002 Mar-02

DELIVERY DATE:

FY 1999 May-01

FY 2000 Mar-02

FY 2001 Mar-03

FY 2002 Mar-04

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (28) kits									28	0.1											28	0.1
FY 2000 (69) kits											69	0.3									69	0.3
FY 2001 (60) kits													60	0.3							60	0.3
FY 2002 (108) kits															108	0.6					108	0.6
FY 2003 (100) kits																	100	0.7			100	0.7
FY 2004 (108) kits																			108	0.7	108	0.7
FY 2005 (103) kits																			103	0.7	103	0.7
To Complete (0) kits																						
TOTAL									28	0.1	69	0.3	60	0.3	108	0.6	100	0.7	211	1.4	576	3.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	17	17	17	18	15	15	15	15
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	17	17	17	18	15	15	15	15

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	27	27	27	27	25	25	25	25	211	576
Out	27	27	27	27	25	25	25	25	211	576

MODIFICATION TITLE: **F/A-18 Aircraft Structural Life Management Plan (SLMP) (OSIP 11-99) CBR+**MODELS OF SYSTEM AFFECTED: **F/A-18 B/C/D**TYPE MODIFICATION: **SAFETY / LIFE EXTENSION**

DESCRIPTION/JUSTIFICATION:

Incorporation of structural enhancements and changes identified during Structural Testing (ST-16), that are required to attain the F/A-18 design service life of 6,000 fatigue hours. Six thousand hours fatigue life will maintain the F/A-18 aircraft inventory in sufficient quantities to meet fleet operational commitments and requirements. The unacceptable alternative to retrofitting would be the failure to reach full fatigue life for the aircraft and to not correct the structural defects discovered on fatigue test articles. In many cases, the mission capability of the aircraft would be adversely affected in addition to its reduced service life. As a result, aircraft may be prematurely removed from useful service. Center Barrel Replacement Plus (CBR+) is applicable to F/A-18As as well as to F/A-18B/C/Ds. Currently F/A-18A's are not in the plan, however, they will possibly be retrofitting F/A-18A's with Avionics changes in the future.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

MDA and NGC are developing a retrofit ECP to modify all aircraft between Lots VI and XVI to realize a full life airframe. Currently all Lot VI through XVI aircraft have 78% life limits without the SLMP modifications to bring them to 100% airframe life. ECP 536 has been approved and Validation/Verification will be completed by end of Apr 2000. CBR+ ECP904NI to be approved Feb 2000 and Validation/Verification for CBR+ will start by Sept 00 and will complete in July 2001.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits					3	3.3	5	5.7			10	11.7	17	18.3	20	22.0	20	22.5	209	247.0	284	330.6
Installation Kits N/R			*1	0.0	**1	1.9		2.2				0.9				0.9		0.0			2	5.9
Installation Equipment																						
Installation Equipment N/R																						0.0
Engineering Change Orders																						
Data						0.1						0.1										0.2
Training Equipment																						
Support Equipment								0.2				1.1		0.6		0.6		0.6		4.3		7.3
ILS						1.7		2.0		2.0		2.4		2.7		3.4		2.7		42.5		59.3
Other Support																						
Interim Contractor Support																						
Installation Cost					*1	0.7	**1	0.5			3	1.5	5	2.6	10	5.3	17	9.2	249	150.4	286	170.1
TOTAL PROCUREMENT						7.6		10.6		2.0		17.7		24.2		32.2		35.0		444.2		573.4

* ECP536 VAL/VER KIT PROVIDED UNDER WARRANTY.

** ECP904NI VAL/VER KIT. VAL/VER KIT BEING PROVIDED BY NAVICP ON HAND ASSET.

*** INSTALLATIONS SLIPPED ONE YEAR DUE TO FY01 FUNDING REDUCTIONS.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

F/A-18 B/C/D

MODIFICATION TITLE: F/A-18 SERVICE LIFE MANAGEMENT PROGRAM

INSTALLATION INFORMATION:

CONTRACTOR PROVIDING 1 WARRANTY KIT

(SLMP) (OSIP 11-99) CBR+

METHOD OF IMPLEMENTATION:

ONE KIT INSTALLED BY CONTRACTOR FOR VAL/VER, OTHER INSTALLS BY DEPOT

ADMINISTRATIVE LEADTIME:

3 Months

PRODUCTION LEADTIME:

24 Months

CONTRACT DATES:

FY 1999: 9/99

FY 2000: 12/99

DELIVERY DATE:

FY 1999: 9/01

FY 2000: 12/01

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																					0	0.0
IN WARRANTY (2) kit					1	0.7															1	0.7
FY 1999 (4) kits							0	0.5			3	1.5									3	2.0
FY 2000 (5) kits													5	2.6							5	2.6
FY 2001 (0) kits																					0	0.0
FY 2002 (10) kits															10	5.3					10	5.3
FY 2003 (17) kits																	17	9.2			17	9.2
FY 2004 (20) kits																			20	12.1	20	12.1
FY 2005 (20) kits																			20	12.1	20	12.1
To Complete (209) kits																			209	126.3	209	126.3
TOTAL	0	0.0	0	0.0	1	0.7	0	0.5	0	0.0	3	1.5	5	2.6	10	5.3	17	9.2	249	150.4	285	170.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	1	1
Out	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In	1	1	1	2	2	2	3	3	4	4	4	5	249	286
Out	1	1	1	1	2	2	2	3	3	4	4	4	254	286

MODIFICATION TITLE: **MULTIFUNCTIONAL INFORMATION DISTRIBUTION SYSTEM (MIDS) (12-99)**

MODELS OF SYSTEM AFFECTED: **F/A-18 C/D/E/F Aircraft**

TYPE MODIFICATION: **CAPABILITY IMPROVEMENT**

DESCRIPTION/JUSTIFICATION:

The system is a Tactical Data Link Communications to provide secure communications and navigation system. MIDS is a Pre-planned Product Improvement (P3I) to the Joint Tactical Information System (JTIDS) and will be installed in USN/USMC F/A-18 aircraft as the primary U.S. platform, since the aircraft can not accommodate the larger JTIDS Class 2 Terminals due to size and weight constraint. MIDS LVT is an International Cooperative Program (ICP) development with France, Germany, Italy, and Spain. A PMOU and Supplement 1 is in effect. The system will be interoperable with JTIDS Class 2 Terminals utilized by NATO allies as well as the other Services. ORD # 337-06-93

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

A MIDS installation kit Critical Design Review (CDR) was held at Boeing in September 1996. MIDS Terminal initial Engineering and Manufacturing Development (E&MD) delivery for F/A-18 occurred in February 1998. Installation into the first three (3) EMD aircraft began in March 1998 and ended in September 1998. In May 1999 Boeing was awarded the ECP contracts required to provision the F/A-18 for the MIDS LVT. These provisions included Avionics Upgrade hardware which is required by other F/A-18 programs and can be installed independently of MIDS LVT. Development delays have caused a program restructure, necessitating the use of FY99 funds to procure MIDS Terminals in FY00. This supports the revised program schedule and eliminates FY00 funding for MIDS LVT procurement and production start-up costs.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RD&E																						
PROCUREMENT																						
Installation Kits																						
Lot XII through XXI Kit					28	4.7	69	11.2	60	10.0	72	12.2	64	11.1	72	12.8	60	10.9	22	4.1	447	76.9
Lot X through XI Kit																						
Installation Kits N/R																						
Installation Equipment (Note 1)																						
Avionics Upgrade					28	4.6	69	10.1	60	10.9	72	12.6	64	13.9	72	12.8	60	9.6	22	2.9	447	77.5
MIDS LVT									60	23.9	72	21.1	64	16.2	72	18.1	60	15.1	295	76.1	623	170.5
Installation Equipment N/R							25.7															25.7
Engineering Change Orders																0.8		0.9				1.7
Data									1.3													1.3
Training Equipment											2.6											2.6
Support Equipment									1.0		3.2		2.4		0.2		0.3					7.2
ILS									1.3		1.8		2.0		1.0		0.8					6.9
Other Support									0.2		0.2		0.1		0.1		0.1					0.7
Interim Contractor Support																						
Installation Cost									28	1.1	69	2.8	60	2.5	72	3.1	64	2.8	154	6.8	447	19.1
TOTAL PROCUREMENT		0.0		0.0		9.3		47.0		49.7		56.5		48.2		48.9		40.5		90.0		390.0

Note 1: The funding for the Avionics Upgrade includes the following equipment; an Interference Blanking Unit (IBU), an Amplifier Control Intercommunication Unit (ACI), a MIDS Compatible CIT upgrade, and a MIDS Compatible Transponder upgrade.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18 C/D/E/F Aircraft MODIFICATION TITLE: MULTIFUNCTIONAL INFORMATION DISTRIBUTION SYSTEM (MIDS) (12-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: DEPOT LEVEL

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1999: May-99 FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: Mar-02

DELIVERY DATE: FY 1999: Nov-99 FY 2000: Sept-01 FY 2001: Sept 02 FY 2001: Mar-04

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (28) kits									28	1.1											28	1.1
FY 2000 (69) kits											69	2.8									69	2.8
FY 2001 (60) kits													60	2.5							60	2.5
FY 2002 (72) kits															72	3.1					72	3.1
FY 2003 (64) kits																	64	2.8			64	2.8
FY 2004 (72) kits																			72	3.2	72	3.2
FY 2005 (60) kits																			60	2.7	60	2.7
To Complete (22) kits																			22	1.0	22	1.0
TOTAL									28	1.1	69	2.8	60	2.5	72	3.1	64	2.8	154	6.8	447	19.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	17	17	17	18	15	15	15	15
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	17	17	17	18	15	15	15	15

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	18	18	18	18	16	16	16	16	154	447
Out	18	18	18	18	16	16	16	16	154	447

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: **F/A-18 C/D/E/F NACES P3I (Navy Aircrew Common Ejection Seat Pre-Planned Product Improvement) (OSIP 20-99)**MODELS OF SYSTEM AFFECTED: **F/A-18 C/D/E/F NACES EJECTION SEATS**TYPE MODIFICATION: **SAFETY**

DESCRIPTION/JUSTIFICATION:

An average of 15 Naval Aircrew fatalities occur each year from in-flight mishaps. Nearly half result from the seat ejecting aircrew into the ground or water at low altitude and adverse attitude. Congressional direction to increase U.S. Navy aircrew anthropometric range to more closely match the general aircrew population. This change will increase anthropometric range from the current 135lbs through 213lbs to 100lbs through 245lbs. The NACES P3I program is divided into three phases of development and upon completion of each phase, existing aircraft seats will be modified with retrofit kits to provide the increased capability to the NACES seat: Phase I - Current technology improvements to increase cockpit accommodation and reduce injury risk for all aircrew. Phase II - Propulsion stability control to reduce the risk of major injury to less than 5% up to 600 knots. Phase III - Stability control and surface avoidance capability for low altitudes, adverse attitudes, and out-of-control ejections.

Procurement of Phase I kits have been priced and are represented by this OSIP. Procurement costs for Phase II and III have not been determined.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ECP was approved 19 May 1999.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits					180	5.4	135	3.4	74	2.0									165	4.5	554	15.2
Installation Kits N/R						0.4		0.1		0.1												0.6
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data						0.0				0.0												0.0
Training Equipment					0.0	0.2	0.0	0.0													8	0.2
Support Equipment						0.0		0.0														0.1
ILS						0.6		0.7		0.4												1.8
Other Support																						
Interim Contractor Support																						
Installation Cost					180	0.2	135	0.2	74	0.2									165	0.4	554	0.9
TOTAL PROCUREMENT						6.9		4.5		2.7									4.8			18.9

Exhibit P-3a

MODIFICATION TITLE: F/A-18 C/D/E/F NACES P3I (Navy Aircrew Common Ejection Seat Pre-Planned Product Improvement) (OSIP 20-99)

MODELS OF SYSTEMS AFFECTED: F/A-18 C/D/E/F NACES EJECTION SEATS

METHOD OF IMPLEMENTATION: Contractor Modification Team

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 1999: 7-99 FY 2000: 6-00 FY 2001: 6-01

DELIVERY DATE: FY 1999: 9-99 FY 2000: 8-00 FY 2001: 8-01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & Prior () kits																						
FY 1999 (180) kits					180	0.2															180	0.2
FY 2000 (135) kits							135	0.2													135	0.2
FY 2001 (74) kits									74	0.2											74	0.2
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete (165) kits																			165	0.4	165	0.4
TOTAL					180	0.2	135	0.2	74	0.2									165	0.4	554	0.9

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	180	33	33	34	35	35	39	0	0	0	0	0	0
Out	0	0	0	0	0	0	0	0	15	40	60	60	60	60	60	34	0	0	0	0	0

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	0	0	165	554
Out	0	0	0	0	0	0	0	0	0	0	0	0	165	554

Exhibit P-3a

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE:

ALR-67(V)3 Advanced Special Receiver (OSIP 11-00)

MODELS OF SYSTEM AFFECTED:

F/A-18 C /D Aircraft

TYPE MODIFICATION AVIONICS UPGRADE

DESCRIPTION/JUSTIFICATION:

The AN/ALR-67 radar receiving set , countermeasures warning and control system (ORD # 360-88-94 / Improved Radar Warning Receiver) is the radar and missile guidance warning system in advanced tactical aircraft. Due to rapid spread of complex fourth generation radar controlled weapons systems in numerous countries throughout the world, AN/ALR-67 (V)3 was started in parallel with AN/ALR-67 (V)2 as the major long term redesign to the ALR-67 system. ALR-67 (V)3 adds significant capability to the ALR-67 with major improvements in frequency so sensitivity, response time, processing power and operating frequency range. ALR-67 (V)3 is designed to handle all scenarios and increased fourth generation threat densities a Navy and/or USMC pilot may face in the early 21st century. The AN/ALR-67(V)3 installation kit in this OSIP can accommodate either the AN/ALR-67(V)3 or the AN/ALR-67(V)2. Until adequate quantities can be procured to meet the 1:1 inventory requirement for F/A-18, the ALR-67 (V)3 systems will be crossdecked to forward deployed units with ALR-67 (V)3 "A" kits installed. "A" kits will be intalled in Lots XII - XVIII and 150 "B" kits will be TYCOM managed assets.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FY 1999 is the last year of the AN/ALR-67(V)3 Engineering and Manufacturing Development. The R&D efforts will be concluded with OPEVAL, which was conducted the second quarter FY 1999. A Low Rate Initial Production contract was awarded in third quarter 1998. These systems will be fielded after OPEVAL is complete. ECP to be approved by 2nd Qtr FY0

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits							30	1.1	23	0.9	31	1.1	34	1.2	33	1.2	33	1.2	175	5.3	359	12.0
Installation Kits N/R								0.4														0.4
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support															0.0		0.0					
Interim Contractor Support																						
Installation Cost											30	0.4	23	0.3	24	0.3	24	0.3	258	3.8	359	5.1
TOTAL PROCUREMENT		0.0		0.0		0.0		1.6		0.9		1.5		1.5		1.5		1.5		9.1		17.6

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18 C /D Aircraft MODIFICATION TITLE: ALR-67(V)3 Advanced Special Receiver (OSIP 11-00)

METHOD OF IMPLEMENTATION: Installation will be by public/private competition at Naval Aviation Depot by FMT/CMT

ADMINISTRATIVE LEADTIME: 7 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1999: N/A FY 2000: Apr-00 FY 2001: Apr-01

DELIVERY DATE: FY 1999: N/A FY 2000: Oct-01 FY 2001: Oct-02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (30) kits											30	0.4									30	0.4
FY 2001 (23) kits													23	0.3							23	0.3
FY 2002 (31) kits															24	0.3	7	0.1			31	0.4
FY 2003 (34) kits																	17	0.2	17	0.3	34	0.5
FY 2004(33) kits																			33	0.5	33	0.5
FY 2005 (33) kits																			33	0.5	33	0.5
To Complete (175) kits																			175	2.6	175	2.6
TOTAL	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	30	0.4	23	0.3	24	0.3	24	0.3	258	3.8	359	5.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	8	8
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	8	8

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In	5	6	6	6	6	6	6	6	6	6	6	6	258	359
Out	5	6	6	6	6	6	6	6	6	6	6	6	258	359

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE:

USMC F/A-18A UPGRADE ECP-583 (OSIP 21-00)

MODELS OF SYSTEM AFFECTED:

F/A-18A

TYPE MODIFICATION:

Avionics Upgrade

DESCRIPTION/JUSTIFICATION:

This ECP is being executed using FY98 (\$16M) and FY99 (\$18M) USMC funding to procure the "A" kits and some of the required Government Furnished Equipment (GFE) and APN-5 funding as shown on this exhibit.

Upgrade Avionics for F/A-18A Hornets (Lots 7, 8 and 9) for the U.S. Marine Corp. The Avionics Upgrade includes new avionic subsystems already incorporated or in process of being incorporated into USMC and/or FMS F/A-18 aircraft. This ECP incorporates the following subsystems: AN/ARC-210(V) with HAVEQUICK II and SINCGARS; Digital Communication Systems (DCS) Receiver/Transmitter (RT-1794); Combined Interrogator/Transponder AN/APX-111 (V); Night Vision Display System (NVDS); Mission Computer CP-2360 (XN-8); Radar (AN/APG-73); Stores Management Set (SMS) (AN/AYQ-9); AMRAAM Capability (radar mod, launchers, weapons pylons and control stick); Digital Display Indicator (DDI) Upgrade; Mission Data Loader (AN/ASQ-215); Targeting FLIR provisions (AAS-38B).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ECP was approved 25 MAR 99. All the equipment being incorporated in this ECP has completed development with the exception of DCS. DCS completes its development/integration with OPEVAL scheduled for second through third quarter of FY2000 along with OFP 15C.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits							6	2.7														2.7
Installation Kits N/R								0.1														0.1
Installation Equipment							51.6		18.0		8.8											78.3
Installation Equipment N/R																						
Engineering Change Orders																						
Data							0.1															0.1
Training													3.7									3.7
Other Support (Testing)							1.4		0.1			3.1										4.5
Support Equipment								1.1														1.1
ILS							2.0		1.3		0.5		2.1									5.9
Interim Contractor Support																						
Installation Cost							4	0.0	6	2.2	6	2.4	8	2.9							24	7.5
TOTAL PROCUREMENT								57.9		22.7		11.6		11.8								104.1

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18A MODIFICATION TITLE: USMC F/A-18A UPGRADE ECP-583 (OSIP 21-00)

INSTALLATION INFORMATION: APPROX 3 KITS INSTALLED EVERY 6 WEEKS (ECP-583) (OSIP 21-00)

METHOD OF IMPLEMENTATION: ONE KIT INSTALLED BY CONTRACTOR FOR VAL/VER, OTHER INSTALLS FIELD TEAMS

ADMINISTRATIVE LEAD-TIME: 3 Months PRODUCTION LEAD-TIME: 12 Months

CONTRACT DATES: FY 1998: 3/99 FY 1999: 7/99 FY 2000:

DELIVERY DATE: FY 1998: 3/00 FY 1999: 7/00 FY 2000:

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (4) kits *							4	0.0													4	0.0
FY 1999 (20) kits*									6	2.2	6	2.4	8	2.9							20	7.5
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
To Complete () kits																						
TOTAL		0 0.0		0 0.0		0 0.0		4 0.0		6 2.2		6 2.4		8 2.9		0 0.0		0 0.0		0 0.0		24 7.5

* USMC funded "A" Kits

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	2	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	0	0	0	2	2	0	2	2	2	1	1	2	2
Out	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	1	1	2	2

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	2	1	2	3	4	1	2	3	4		
In	2	2	2	2	0	0	0	0	0	0	0	0	0	24
Out	2	2	2	2	0	0	0	0	0	0	0	0	0	24

* NOTE: VALVER installation is incorporated into the "A" Kit procurement contract and the cost is included as part of the Installation Kits Non-Recurring in FY98.

* FY00 Install Kits are VALVER

Exhibit P-3a

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: F/A-18 Joint Helmet-Mounting Cueing System (JHMCS) (OSIP 24-00)MODELS OF SYSTEM AFFECTED: F/A-18C/DTYPE MODIFICATION: Capability Improvement

DESCRIPTION/JUSTIFICATION:

The Joint Helmet-Mounted Cueing System (JHMCS) is a multi-service system that provides United States Air Force (USAF) and United States Navy (USN) aircraft the capability to cue and verify on-board weapons and weapons sensors to a specific azimuth/elevation determined by the pilot's head position and to confirm sensor line-of-sight. The intent is to reduce tasks required of aircrews, verify seeker/sensor position, and enhance weapons employment opportunities. In the air-to-air role, aircrew will be able to cue and verify cueing of off-boresight weapon sensors and weapons (current and future short-range air-to-air missiles) to exploit the full weapons envelopes in the dynamic Within Visual Range (WVR) arena. In the air-to-ground role, this system will enhance lethality and survivability by reducing cockpit "heads down" and target acquisition time. For the strike, strike escort, and force application missions, the JHMCS possesses potential to enhance the flexibility of cueing weapons and sensors in the stressful air-to-ground tactical environment. The JHMCS incorporates an ejection-compatible helmet-mounted display system, with capability to cue and verify cueing of high off-axis sensors and weapons, on USAF and USN single seat and two seat fighter aircraft. The JHMCS includes a flight helmet with display optics, image source, display processor/video hardware and software to drive the display, uplook reticle, magnetic helmet tracker hardware and software, interfaces to the aircraft computers, weapons and sensor hardware, with software to integrate the JHMCS functions with other onboard systems. The JHMCS communicates with airborne sensors (FLIR, RADAR) through the aircraft avionics MUX Bus. It communicates with weapons through the armament MUX Bus via the Stores Management System

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The program is currently in EMD with DT and an Operational Assessment Complete. The JHMCS OPEVAL is currently scheduled for 4th quarter FY00. The FY00 APN-5 Funding will be used for production NRE and tooling expenses. The first F/A-18C/D JHMCS retrofit kits will be procured in FY03.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits													54	2.2	82	3.4	82	3.4	134	5.8	352	14.7
Installation Kits N/R							1.7							0.3							2.0	
Installation Equipment													54	6.5	82	10.0	82	10.3	134	16.8	352	43.5
Installation Equipment N/R																						
Engineering Change Orders																						
Data														1.9								1.9
Training														0.9								0.9
Support Equipment														0.8		0.2						1.0
ILS														0.7		0.8		0.9		1.6		4.0
Spares																						
Other Support - Testing							0.3							0.2		0.2		0.2				0.8
Installation Cost															54	2.2	82	3.3	216	8.6	352	14.1
TOTAL PROCUREMENT							2.0							13.4		16.8		18.1		32.7		83.0

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18C/D MODIFICATION TITLE: F/A-18 Joint Helmet-Mounting Cueing System (JHMCS) (OSIP 24-00)

INSTALLATION INFORMATION: APPROX 5 KITS INSTALLED EVERY 4 WEEKS (OSIP 24-00)

METHOD OF IMPLEMENTATION: FIELD MOD TEAMS

ADMINISTRATIVE LEAD-TIME: 3 Months PRODUCTION LEAD-TIME: 12 Months

CONTRACT DATES: FY 1998: _____ FY 1999: Jan-03 FY 2000: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 () kits																				
FY 1999 () kits																				
FY 2000 () kits																				
FY 2001 () kits																				
FY 2002 () kits																				
FY 2003 (54) kits															54	2.2				
FY 2004 (82) kits																	82	3.3		
FY 2005 (82) kits																			82	3.3
To Complete (134) kits																			134	5.4
TOTAL	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	54	2.2	82	3.3	216	8.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	2	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	2	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	14	20	20	20	20	21	21	216	352
Out	0	0	0	0	0	14	20	20	20	20	21	21	216	352

Exhibit P-3a

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE H-46 Series Modification					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY		A										
COST (In Millions)	596.2	A	34.2	31.0	17.8	16.6	15.6	12.9	11.9	7.2	3.6	747.0
<p>This line item funds modifications to the H-46 aircraft. The H-46 is a twin-turbine powered dual-piloted tandem-rotor helicopter. The cabin contains provisions for accommodating 25 troops and crew members. The cabin also contains an integral cargo and rescue system. The overall goal of the modification budget in FY 2001 is to keep the H-46 a viable platform until a replacement aircraft can be fielded by upgrading flight critical dynamic components, the engine control system, and the electrical system. H-46 helicopters are used by the Marine Corps for troop transport and by the Navy for vertical replenishment of ships. There are currently 312 aircraft (288 active + 24 reserve) in the inventory. USMC: (230) CH-46E + (9) HH-46D; USN: (27) CH-46D + (33) HH46-D + (13) UH-46D. (24) CH-46E's are reserve aircraft. Original Design Service Life was 10,000 hours. It was subsequently extended to 12,500 hours on 18 December 1992 and 15,000 hours in February 1996. Aircraft will continue to be flown past 15,000 flight hours on an Age Exploration Program.</p> <p>The specific modifications budgeted and programmed are:</p>												
(TUA, \$ in Millions)												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
104-87	Block Upgrade	172.3	0.2									172.5
25-91	Dynamic Component Upgrade (DCU)	359.9	17.4	15.9	5.2	3.6	3.4	2.7	0.9	0.9		409.9
09-92	ARC-210 Radio	3.6	0.7	0.9	0.3	0.4						6.0
19-92	Night Vision Goggle HUD	10.3	1.3	1.1	0.9							13.6
16-93	Navigation/GPS	42.5	10.4	6.4	3.6							62.9
25-97	Safety Improvement	7.6	4.2	2.2	1.0	1.0	1.2	1.4	2.6	1.1	0.7	22.8
28-99	Engine Control System Retrofit			2.2	5.2	9.3	6.9	3.9	2.8	2.4		32.8
29-99	Electrical System Upgrade			2.4	1.7	2.2	4.1	4.9	5.6	2.7	2.9	26.6
Total		596.2	34.2	31.0	17.8	16.6	15.6	12.9	11.9	7.2	3.6	747.0
Note: Totals may not add due to rounding.												
Reserves			2.0	1.7	0.5	0.2	0.2	0.2	0.2	0.2		

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Block Upgrade(OSIP 104-87)MODELS OF SYSTEMS AFFECTED: H-46TYPE MODIFICATION: Upgrade (HONA Category C)

DESCRIPTION/JUSTIFICATION: To upgrade the H-46 by adding additional fuel capacity, a navigation system, and a flotation system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: All modifications are complete.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 537 Fuel Kit	246	83.6																			246	83.6
ECP 544 HEFS KIT	1,816	16.7																			1,816	16.7
ECP H-46-59 CNCS Nav Kit	3	0.2																			3	0.2
ECP H-46-41 Omega Nav Kit	96	0.3																			96	0.3
Installation Kits N/R		31.0																				31.0
Installation Equipment																						
AN/APN-217	67	5.5																			67	5.5
Cockpit Control System (CSS)	109	5.6																			109	5.6
HHSI	12	0.8																			12	0.8
OMEGA AN/ARN-148	96	1.8																			96	1.8
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data		2.4																				2.4
Training Equipment		1.1																				1.1
Support Equipment		0.1																				0.1
ILS		0.1																				0.1
Other Support		2.5																				2.5
Interim Contractor Support																						
Installation Cost	305	20.6	2	0.2																	307	20.8
Total Procurement		172.3		0.2																		172.5

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: H-46MODIFICATION TITLE: Block Upgrade

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with SDLM, Field Modification Team (FMT), and Drive-In Modification (DIM)

ADMINISTRATIVE LEADTIME: N/A MonthsPRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1998: N/AFY 1999: N/AFY 2000: N/AFY 2001: N/A

DELIVERY DATE: FY 1998: N/AFY 1999: N/AFY 2000: N/AFY 2001: N/A

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (307) kits	305	20.6	2	0.2																	307	20.8
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	305	20.6	2	0.2																	307	20.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	305		1	1																					
Out	301	4		1	1																				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										307
Out										307

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Dynamic Component Upgrade (DCU) (OSIP 25-91)MODELS OF SYSTEMS AFFECTED: H-46TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: The H-46 helicopter is nearing the end of its originally planned service life. Several dynamic components have failed between 1988 and 1990 due to fatigue. Engineering Change Proposal (ECP)-556 incorporates design improvements to the critical safety items which have been identified by in-service failure and flight strain survey. The changes increase thickness of critical sections, and make other specific changes to increase resistance to fatigue damage. The major components include the forward and aft rotor heads, the forward and aft transmissions, the mixbox, aft vertical rotor shaft, the swashplates, synchronizing shafts, and accessory gear box. ECP-558 changes configuration of the Aircraft Flight Control System, (AFCS) which reduces flight loads on critical components. The H-46 presently uses the MD-1 and AHRS gyroscopes for pitch and roll rate input to the AFCS. These gyroscopes were originally designed for indication systems only and do not provide adequate input for pitch and roll rate to the AFCS. DCU was directed by Chief of Naval Operations (CNO) letter 13100 serial 504E/OU603293 dated 30 Aug 90, and approved by ASN(RDA) by Program Management Proposal (PMP) 90-7 on 18 Jan 91. Currently, there are 312 H-46 aircraft (288 active plus 24 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The dynamic component fatigue testing commenced in January 1991 and completed in December 1997. The DCU ECP 556 delivered in December 1991, and the AFCS ECP 558 delivered in August 1993. The DCU validation completed in September 1995. The DCU flight testing started in November 1995 and completed in May 1997, and production installations are ongoing. The AFCS flight testing completed in February 1996, verification completed in March 1996, and production installations are ongoing.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP #556	312	213.6																			312	213.6
ECP #558	315	12.6																			315	12.6
Installation Kits N/R		83.7		0.7																		84.3
Installation Equipment																						
XXX Equip		0.5																				0.5
Installation Equipment N/R																						
Engineering Change Orders																						
Moisture Debris Covers				0.1																		0.1
Wear Plate Blade Attach Fitting				0.2																		0.2
Fuzz Burn-Off				0.6																		0.6
Accessory Gear Box				1.3																		1.3
Data		0.9		1.1		1.1		0.1														3.1
Training Equipment	2	1.3																			2	1.3
Support Equipment		3.7		1.2																		4.9
ILS																						
Other Support		16.3		2.6		1.3		1.3		0.8		0.8		0.8		0.9		0.9				25.7
Interim Contractor Support		2.7																				2.7
Installation Cost	2	24.6		9.6		13.5	48	3.8	90	2.8	90	2.6	70	1.9							300	58.9
Total Procurement		359.9		17.4		15.9		5.2		3.6		3.4		2.7		0.9		0.9				409.9

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: H-46MODIFICATION TITLE: Dynamic Component Upgrade (DCU)

INSTALLATION INFORMATION: All components will be modified at NADEP Cherry Point to DCU configuration concurrent with component overhaul/repair. Installation cost includes consummable material used during component overhaul/repair.The DCU configuration rotorheads may be installed in aircraft at O-level. All other components will be installed in aircraft by D-level concurrent with SDLM or by FMT. The quantities reflected in the tables below are aircraft installation quantities; and dollar figures in the tables include component modification, GFM and aircraft installation.

METHOD OF IMPLEMENTATION: _____

ADMINISTRATIVE LEADTIME: N/A MonthsPRODUCTION LEADTIME: NA Months

CONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/A

DELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/A

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (300) kits	2	24.6		9.6		13.5	48	3.8	90	2.8	90	2.6	70	1.9							300	58.9
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	2	24.6		9.6		13.5	48	3.8	90	2.8	90	2.6	70	1.9							300	58.9

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2											24	24	22	22	23	23	22	22	23	23	22	21	21	6
Out	2												24	24	22	22	23	23	22	22	23	23	22	21	21

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										300
Out	6									300

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/ARC-210 Electronic Counter Countermeasures Radio (OSIP 9-92)MODELS OF SYSTEMS AFFECTED: CH-46ETYPE MODIFICATION: Upgrade (HONA Category C)

DESCRIPTION/JUSTIFICATION: The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for ECCM interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and ECCM capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINGGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The ECCM parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINGGARS. The ARC-210 Operational Requirements Document (ORD) 333-06-93 was approved 20 Apr 93. The ARC-210 installation in the H-46 aircraft was approved by ASN(RDA) by Program Management Proposal (PMP) 90-6 on 18 Jan 91. Currently, there are 230 CH-46E aircraft (206 active + 24 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ARC-210 is being installed in CH-46E aircraft concurrent with the Navigation/Global Positioning System (GPS) OSIP 16-93. Validation completed 30 March 1995 and Developmental Testing completed in July 1995. The Operational Testing (OT) completed January 1996 and production installs are ongoing.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A-Kit	146	1.1	38	0.3	37	0.5			11	0.2											232	2.0
XXX Kit																						
Installation Kits N/R		0.6																				0.6
Installation Equipment																						
Receiver/Transmitter	4	0.2																			4	0.2
Control Radio Set	4	*																			4	*
Mount	4	*																			4	*
9" Tunable Antenna	4	0.1																			4	0.1
Converter	4	0.1																			4	0.1
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data		0.1																				0.1
Training Equipment	5	*																			5	*
Support Equipment																						
ILS		0.1																				0.1
Other Support		0.5		0.1		*		*		0.0												0.7
Interim Contractor Support																						
Installation Cost	111	0.8	46	0.4	44	0.4	25	0.2	11	0.2											237	2.0
Total Procurement		3.6		0.7		0.9		0.3		0.4												6.0

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-46E

MODIFICATION TITLE: AN/ARC-210 Electronic Counter Countermeasures Radio (OSIP 9-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with SDLM and Field Modification Team (FMT)

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 7 Months

CONTRACT DATES: FY 1998: Jan-98

FY 1999: Dec-98

FY 2000: N/A

FY 2001: N/A

DELIVERY DATE: FY 1998: Sep-98

FY 1999: Jul-99

FY 2000: N/A

FY 2001: N/A

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (189) kits	111	0.8	46	0.4	32	0.3															189	1.4
FY 1999 (37) kits					12	0.1	25	0.2													37	0.4
FY 2000 () kits																						
FY 2001 (11) kits									11	0.2											11	0.2
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	111	0.8	46	0.4	44	0.4	25	0.2	11	0.2											237	2.0

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	111	13	10	10	13	11	11	11	11	9	9	4	3				11								
Out	96	15	13	10	10	13	11	11	11	11	9	9	4	3				11							

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										237
Out										237

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Night Vision Goggle Heads-Up Display (NVG HUD) (OSIP 19-92)MODELS OF SYSTEMS AFFECTED: CH-46ETYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: This modification incorporates the use of Head-Up Displays (HUD) with Night Vision Goggles (NVG). Helicopter crews are increasingly performing missions at night utilizing NVGs. Although NVGs have provided pilots with the capability to see in low light conditions, they have also hampered their ability to read critical flight instruments. A NVG HUD system would allow the pilot to quickly ascertain flight data while maintaining an outside visual scan. Pilot workload would decrease because the NVG HUD system eliminates many of the inside/outside scan transitions otherwise required to access flight status information. The decreased pilot workload would make NVG flying considerably safer, particularly in environments requiring full pilot attention outside the cockpit (e.g., terrain flight and ship landings). Two systems will be installed in each cockpit (for pilot and co-pilot). This program was approved by ASN (RDA) by Program Management Proposal (PMP) 90-3 on 18 Jan 91. Currently, there are 230 CH-46E aircraft (206 active + 24 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This equipment is being procured as a nondevelopmental item (NDI) in conjunction with the Army Night Vision Electronics Optical Program Office. The Army awarded a contract 30 Sep 91 which procures A and B kits (provisions and equipment) for both Army helicopters and participating Marine helicopters. Marine participation was requested and provided for Request for Proposal (RFP) development and source selection. Marine Corps pilots participated in Army flight evaluations of equipment submitted in response to the RFP, and the selected system meets their requirements. NADEP Cherry Point performed a validation of the NVG HUD system in Sep 93 and then AEL conducted EMC testing on the validation aircraft. Approval for Full Production was granted 13 Dec 93 and production installations are ongoing.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A-Kit	235	1.4																			235	1.4
B-Kit	235	4.2																			235	4.2
Installation Kits N/R		1.3																				1.3
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
XXX Equip ECO XXX																						
Data		0.1		*																		0.1
Training Equipment	4	0.2		0.1		0.1															4	0.4
Support Equipment		0.2																				0.2
ILS		0.2		0.2		0.1		0.1														0.5
Other Support		0.9		0.1																		0.9
Interim Contractor Support		0.1																				0.1
Installation Cost	93	1.8	61	1.1	44	0.9	41	0.8													239	4.5
Total Procurement		10.3		1.3		1.1		0.9														13.6

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-46E

MODIFICATION TITLE: Night Vision Goggle Heads-Up Display (NVG HUD) (OSIP 19-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Field Mod Team

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

FY 2001:

DELIVERY DATE: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

FY 2001:

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (239) kits	93	1.8	61	1.1	44	0.9	41	0.8													239	4.5
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	93	1.8	61	1.1	44	0.9	41	0.8													239	4.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	93	15	14	14	18	11	11	11	11	11	12	12	6												
Out	78	15	15	14	14	18	11	11	11	11	11	12	12	6											

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										239
Out										239

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Navigation/Global Positioning System (GPS) (OSIP 16-93)MODELS OF SYSTEMS AFFECTED: CH-46ETYPE MODIFICATION: Safety & Congressional Mandate (HONA Category A)

DESCRIPTION/JUSTIFICATION: The NAVSTAR GPS is designed to provide highly accurate passive position & velocity, and precise time to users worldwide in all weather conditions. The GPS will interface with existing navigation equipment. This OSIP contains only the H-46 aircraft provision kit and peculiar GFE. The GPS GFE is funded by a common avionics OSIP (71-88). This capability is a requirement to fly within U. S. airspace under a DoD/DoT Memorandum of Agreement. The GPS Operational Requirements Document (ORD) USAF 003-78 I/II/III was approved 22 Jan 90. The GPS installation in the H-46 aircraft was approved by ASN (RDA) by Program Management Proposal (PMP) 90-4 on 18 Jan 91. Currently, there are 230 CH-46E aircraft (206 active + 24 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NAVSTAR GPS program (GFE) completed Phase II (Full Scale Engineering Development) and completed Milestone IIIA (Approval for Limited Production) in Jun 86. Milestone IIIB completed in Jan 92. Research, Development, Test & Evaluation, Navy (RDT&E,N) is funded under program element 0604777N. H-46 unique A-kit and navigation equipment Low Rate Initial Production (LRIP) approval was granted 10 Dec 93, 19 Oct 94, and 24 Jul 95. Validation completed 30 Mar 95 and Developmental Testing completed in Jul 95. Operational Testing (OT) completed in Jan 96, and production installations are ongoing.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A-Kit	165	11.6	47	2.6	19	1.0															231	15.2
Installation Kits N/R		3.5																				3.5
Installation Equipment																						
HHSI	330	5.1	94	1.6	38	0.7															462	7.4
ICU	12	0.2	66	1.3																	78	1.6
HAC Panel		1.1																				1.1
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data		0.5		0.6																		1.1
Training Equipment	6	2.3																			6	2.3
Support Equipment		0.9					0.2															1.2
ILS		0.8		0.3		0.3		0.4														1.7
Other Support		4.3		0.5		0.6		0.1														5.4
Interim Contractor Support		1.3																				1.3
Installation Cost	108	10.8	47	3.4	44	3.8	38	3.0													237	21.0
Total Procurement		42.5		10.4		6.4		3.6														62.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-46E

MODIFICATION TITLE: Navigation/Global Positioning System (OSIP 16-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with SDLM & FMT

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: Jan-98

FY 1999: Dec-98

FY 2000: N/A

FY 2001: N/A

DELIVERY DATE: FY 1998: Feb-99

FY 1999: Dec-99

FY 2000: N/A

FY 2001: N/A

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (218) kits	108	10.8	47	3.4	44	3.8	19	1.5													218	19.5
FY 1999 (19) kits							19	1.5													19	1.5
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	108	10.8	47	3.4	44	3.8	38	3.0													237	21.0

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	108	13	10	11	13	11	11	11	11	11	10	11	6												
Out	95	13	13	10	11	13	11	11	11	11	11	10	11	6											

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										237
Out										237

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:SAFETY IMPROVEMENT (OSIP 25-97)

MODELS OF SYSTEMS AFFECTED:H-46TYPE MODIFICATION:Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: The Safety Improvement Program was directed by Chief of Naval Operations (CNO) letter 7100 serial N880F/7U660758 dated 10 Jan 97, and approved as an Abbreviated Acquisition Program (AAP) by the Program Executive Officer (PEO) on 24 Oct 97. Currently, there are 312 H-46 aircraft (288 active + 24 reserve). This program contains five Engineering Change Proposals (ECP):

1. HYDRAULIC SYSTEM UPGRADE: H-46 hydraulic system pump failures have caused three Class A mishaps in the past year. The pump is operating above rated pump specifications and suffers degrading reliability. The H-46D utility system pump supplies the #2 flight control system, and failure of the pump causes the loss of #2 flight controls and has caused one Class A flight mishap. The CH-46E pump has a history of overheating and igniting hydraulic fluid; and has caused two class A flight mist

This program will engineer, qualify, and procure form/fit/function replacement pumps for both the H-46D and CH-46E configurations. Also, as part of this program, the unused Engine Exhaust Device System (EEDS), a subsystem of the utility hydraulic sy: will be removed from the CH-46E. This modification is being installed in 310 H-46 aircraft (286 active + 24 reserve)

2. UPPER DUAL BOOST ACTUATOR (UDBA): The housing for the UDBA is highly susceptible to stress corrosion cracking. In addition, the threaded connections in the UDBA control valve assembly have experienced material wear. The material wear and housing cracks have caused one class A mishap and one hazard report (HAZREP). If the control valve malfunctions, the pilot cannot control the drive direction of the helicopter, a potentially life threatening situation. As a result of these problems, two airframe bulletins have been issued and currently the actuator undergoes a recurring 200 hour inspection to prevent additional failures. This program will procure redesigned UDBAs that eliminate the failure mode in the control valve assembly. This modification is installed in 208 CH-46E aircraft (184 active + 24 reserve).

3. NIGHT VISION GOGGLE (NVG) COMPATIBLE COCKPIT: Navy H-46D aircraft do not have integrated NVG lighted cockpit. Shipboard OPS require all aircraft to be NVG equipped, and this program will modify the H-46D cockpits with NVG lighting. This modification is being installed in 81 H-46D aircraft (all active, no reserves).

4. RUNNING ENGINE WASH: The poor T58-16/402 engine performance is due to dirt and oil residue in the compressor section. Maintenance requires daily wash after over-shipboard operations to remove salt encrustation. Improved nozzle design better atomizes cleaning fluid, allows engine wash to be performed with the engine running, and is environmentally friendly. This program will modify the configuration of 81 H-46D aircraft (all active, no reserves) and 687 T-58-16 engines (used in CH-46E aircraft) to allow running engine wash.

5. SLIDING RESCUE HATCH (HELL HOLE DOOR): Sixty-six H-46 aircraft are equipped with a hinged rescue hatch which cannot be secured in flight. With the door open, watertight integrity is lost and the aircraft will fill with water following a controlled landing into the water. The hinged rescue hatch has contributed to the loss of aircraft that might have recovered from controlled water landings, and also greatly shortens crew egress time from aircraft that have landed in the water. This upgrade will retrofit the 66 H-46 aircraft (all active, no reserves) with a sliding door configuration that can be secured in flight.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: 1. HYDRAULIC SYSTEM UPGRADE: The production order contract awarded in April 1998, and the hydraulic pumps began delivering in Feb 99. The hydraulic pumps are being installed by the fleet at the O-level. Removal of the unused EEDS plumbing by a Government-Owned, Contractor-Operated (GOCO) Field Mod Team (FMT) started in March 1998 and is ongoing.

2. UPPER DUAL BOOST ACTUATOR: The ECP and engineering design are scheduled for FY 2000. Testing and qualification are scheduled for FY 2001, to be followed by an initial kit procurement in FY 2002. Kit delivery and O-Level installation will s FY 2003.

3. NVG COMPATIBLE COCKPIT: Production kits were ordered in January 1998, and kit deliveries and installs by GOCO FMT are ongoing.

4. T58-16/402 RUNNING ENGINE WASH: The H-46D model ECP was approved in November 1997, and the CH-46E model ECP was approved in December 1997. Kit deliveries and O-Level installations commenced in November 1999.

5. SLIDING RESCUE HATCH (HELL HOLE DOOR): Because the sliding door configuration was cut into the original H-46 production line, the data and drawings are available to incorporate this change. Production kits were ordered in May 1998, and kit deliveries and installs by GOCO FMT are ongoing

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Hydraulic Sys Upgrade (D)	81	1.1																			81	1.1
Hydraulic Sys Upgrade (E)	89	1.3	140	2.1																	229	3.3
Upper Dual Boost Actuator (E)											28	0.6	40	0.9	86	1.9	25	0.6	29	0.7	208	4.7
NVG Compatible Cockpit (D)	56	2.3	25	1.0																	81	3.2
T58 Running Engine Wash																						
AFC-477 (D)	81	0.1																			81	0.1
PPC-165 (E)	687	0.8																			687	0.8
Sliding Rescue Hatch (D & E)	32	0.4	34	0.4																	66	0.8
Installation Kits N/R		1.3						0.7		0.7												2.7
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data		0.1		0.1		0.2		*		0.1		*										0.6
Training Equipment	3	*							2	*											5	0.1
Support Equipment		*																				*
ILS		0.3				0.1																0.4
Other Support				0.1		0.4		0.2		0.1		0.5		0.5		0.6		0.6				2.9
Interim Contractor Support																						
Installation Cost			208	0.6	172	1.5															380	2.1
Total Procurement		7.6		4.2		2.2		1.0		1.0		1.2		1.4		2.6		1.1		0.7		22.8

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: H-46MODIFICATION TITLE: Safety Improvement OSIP 25-97

INSTALLATION INFORMATION: **HYDRAULIC SYSTEM UPGRADE: PUMPS INSTALLED O-LEVEL & EEDS REMOVAL GOCO FMT. UPPER DUAL BOOST ACTUATOR: O-LEVEL. NVG COMPATIBLE COCKPIT: GOCO FMT. RUNNING ENGINE WASH: O-LEVEL. SLIDING RESCUE HATCH: GOCO FMT**

METHOD OF IMPLEMENTATION: _____

ADMINISTRATIVE LEADTIME: Varies MonthsPRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: Apr-98FY 1999: N/AFY 2000: N/AFY 2001: N/A

DELIVERY DATE: FY 1998: Feb-99FY 1999: N/AFY 2000: N/AFY 2001: N/A

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (380) kits			208	0.6	172	1.5															380	2.1
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			208	0.6	172	1.5															380	2.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In			10	56	142	35	46	46	45																
Out				10	56	142	35	46	46	45															

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										380
Out										380

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Engine Control System (ECS) Retrofit (OSIP 28-99)MODELS OF SYSTEMS AFFECTED: H-46TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: The current H-46 Engine Condition Control System (ECCS) has several failure modes which cause engines to shut down in flight; this presents a significant safety hazard to the fleet. Three bulletins have been issued by NAVAIR to inspect for system deficiencies. A formal system safety analysis utilizing historical failure data defines this as a Category One hazard and predicts six to seven failures per year. In the last three and a half years there have been 22 hazard reports (HAZARD) issued documenting this failure mode, and it is estimated that 20 more have occurred which have not been reported through the HAZREP system. The aircraft has a limited single engine operating envelope and is vulnerable to engine failure while flying and hovering over water. There have been five aircraft lost at sea in which pilots reported engine failure as the cause of the mishap. The aircraft were not recovered, and therefore, the specific engine failure mode could not be determined, but it is likely that ECCS caused some of the engine failures and ultimately led to the loss of aircraft. The proposed solution to this safety problem is to convert to an alternative ECS utilized by the commercial variant of the H-46. The proposed ECS will eliminate the safety failure modes, has a proven track record, needs only slight modification for military use, increases reliability, and will increase aircraft capability through increased engine responsiveness. Implementation will require configuration changes of the airframe and the engine. This is an urgent safety issue that must be resolved to eliminate future loss of crew and aircraft. Currently, there are 312 H-46 aircraft (288 active +24 reserve); however forecast is 193 H-46 aircraft (169 active + 24 reserve), the mid-point of installs.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The contract for Proof of Concept and val/ver kits for this Non-Development Item (NDI) was awarded May 1999. Kit val/ver system test will be complete in FY 2000. Production installs are scheduled for FY 01.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Airframe Kit							30	1.9	83	5.2	57	3.7	23	1.5							193	12.3
Engine Kit							60	0.2	166	0.4	152	0.4	84	0.2							462	1.2
Installation Kits N/R					2	1.3		1.7													2	3.0
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
ECS ECO															0.9		0.9					1.7
XXX Equip ECO XXX																						
Data						0.6		0.6		0.6												1.7
Training Equipment									6	0.7											6	0.7
Support Equipment								*		0.7		0.7										1.5
ILS								0.3		0.3		0.3		0.3		0.3		0.3				1.5
Other Support						0.3		0.6		1.2		1.3		1.3		1.3		1.3				7.3
Interim Contractor Support																						
Installation Cost							2	*	30	0.2	85	0.6	57	0.7	23	0.4					197	1.8
Total Procurement						2.2		5.2		9.3		6.9		3.9		2.8		2.4				32.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: H-46MODIFICATION TITLE: ENGINE CONTROL SYSTEM RETROFIT

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Government Owned Contractor Operated (GOCO) Field Mod Team

ADMINISTRATIVE LEADTIME:VariesMonthsPRODUCTION LEADTIME:12Months

CONTRACT DATES: FY 1998:N/AFY 1999:May-99FY 2000:Jun-00FY 2001:Nov-00

DELIVERY DATE: FY 1998:N/AFY 1999:May-00FY 2000:Jun-01FY 2001:Nov-01

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (2) kits							2	*													2	*
FY 2000 (30) kits									30	0.2											30	0.2
FY 2001 (85) kits											85	0.6									85	0.6
FY 2002 (57) kits													57	0.7							57	0.7
FY 2003 (23) kits															23	0.4					23	0.4
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							2	*	30	0.2	85	0.6	57	0.7	23	0.4					197	1.8

FY 2002 INSTALLS REFLECT 2 TRAINERS INCLUDED.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In												1	1			9	21	21	21	21	22	15	15	15	12
Out												1	1			9	21	21	21	21	22	15	15	15	15

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	12	11								197
Out	12	12	11							197

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: ELECTRICAL SYSTEM UPGRADE (OSIP 29-99)

MODELS OF SYSTEMS AFFECTED: CH-46E

TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: The power generation system has been the cause of ten hazard reports (HAZREP) over the past three years. The causal factor has been traced back to the generators and the voltage control system. Two incidents resulted in dual generator failure, and seven incidents resulted in aircraft smoking/fires. (One of those fires was caused by flammable fluid ingestion into the generator that turned a hydraulic leak into a massive fire that consumed the entire aircraft in a Class A mishap.) A formal system safety analysis utilizing historical failure data defines this hazard as a potential Category One hazard and predicts two to three failures per year. This is an urgent safety problem that must be alleviated to eliminate loss of life and aircraft. The proposed solution is to modify the power generation system to eliminate the safety problem, provide cleaner power to sensitive avionics components, and improve performance of the generator to meet the power demand for future electrical installation in the aircraft. Currently, there are 230 CH-46E aircraft (206 active + 24 reserve); however, forecast is 193 CH-46E aircraft (169 active + 24 reserve), the mid-point of installs.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Contract award to begin development and qualification of a new generator control panel and modification to the generator is expected in March 2000. Preliminary Design Review (PDR), breadboard testing, Critical Design Review (CDR), and procurement of val unit are scheduled for FY 2000. Bench testing and validation are scheduled for FY 01, and verification in FY 02. Production installs are scheduled for FY 03.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Airframe Kit							1	*	1	*	46	0.1	52	0.1	64	0.1	19	*	10	*	193	0.4
XXX Kit																						
Installation Kits N/R					1.3		0.6															1.9
Installation Equipment																						
Supervisory Panel							2	*	2	*	92	1.4	104	1.6	128	2.0	38	0.4	20	0.2	386	5.5
Generator							2	*	2	*	92	1.3	104	1.5	128	1.9	38	0.6	20	0.3	386	5.5
Installation Equipment N/R																						
Engineering Change Orders																						
Wiring ECO																				1.0		1.0
XXX Equip ECO																						
Data					0.5		0.2		0.7													1.4
Training Equipment					0.5						2	0.1									2	0.6
Support Equipment								*	*		0.1		0.1		0.1							0.2
ILS							0.1		0.2		0.2		0.2		0.2		0.2		0.2			1.2
Other Support							0.7		1.2		1.0		1.2		1.1		1.1		1.1			7.5
Interim Contractor Support																						
Installation Cost									1	*	1	*	48	0.3	52	0.4	64	0.4	29	0.2	195	1.3
Total Procurement						2.4		1.7		2.2		4.1		4.9		5.6		2.7		2.9		26.6

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-46E

MODIFICATION TITLE:Electrical System Upgrade

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Government Owned Contractor Operated (GOCO) Field Mod Team

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 1998: N/A

FY 1999: N/A

FY 2000: Jun-00

FY 2001: Jul-01

DELIVERY DATE: FY 1998: N/A

FY 1999: N/A

FY 2000: Jun-01

FY 2001: Apr-02

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (1) kits									1	*											1	*
FY 2001 (1) kits											1	*									1	*
FY 2002 (48) kits													48	0.3							48	0.3
FY 2003 (52) kits															52	0.4					52	0.4
FY 2004 (64) kits																	64	0.4			64	0.4
FY 2005 (19) kits																			19	0.1	19	0.1
To Complete (10) kits																			10	0.1	10	0.1
TOTAL									1	*	1	*	48	0.3	52	0.4	64	0.4	29	0.2	195	1.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003					
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In																1			1				12	12	12	12	
Out																	1			1				12	12	12	12

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	13	13	13	13	16	16	16	16	29	195
Out	12	13	13	13	13	16	16	16	45	195

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE AH-1W Series Modifications				
Program Element for Code B Items:								Other Related Program Elements				
	ID Code	Prior Year	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY	A											
COST (In Millions)	A	295.2	35.0	27.6	18.6	9.8	10.7	8.0	4.4	2.1		411.5
<p>This line item funds modifications to the AH-1W aircraft. Modifications prior to FY 1997 were funded in the H-1 Series line item. There are 199 AH-1W's. The AH-1W is a tandem seat, two place (pilot and gunner/co-pilot) attack helicopter designed and built to provide the high speed and maneuverability required by the attack mission. The armament of the AH-1W includes the SIDEWINDER, TOW and the HELLFIRE missile systems, a chin-mounted 20mm turret gun, and wide variety of forward firing and gravity released external stores. Operational Requirements Document (ORD) AAS-35 covers all OSIPs listed below. The overall goal of the modifications budgeted in FY 2001 is to continue to fulfill the operational requirement to detect, identify and destroy tactical sized armored targets with precision guided munitions during the day, at night, and during adverse weather, as well as providing enhanced conventional weapons delivery by utilizing the systems laser ranging and designating system. The specific modifications budgeted and programmed are:</p>												
(TOA, \$ in Millions)												
<u>OSIP No.</u>	<u>Description</u>	<u>Prior Year</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Complete</u>	<u>Total</u>
8-90	AH-1 Night Targeting System	264.7	23.5	14.9	7.0							310.0
3-93	AH-1 Embedded GPS/ARC-210 NAV Upgrade	24.9	9.3	12.0	7.7	5.9	1.9					61.7
25-94	AH-1 Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting	5.7	0.9									6.5
16-98	AH-1W APR-39A(V)2		1.4	0.7	1.1	0.4						3.5
12-00	H-1 Mission Planning Module and OFP Software Upgrade Program				1.2	0.9	1.2	0.6	1.0	1.0		5.9
13-00	AH-1W Aircraft and T700 Engine Safety Corrections				1.6	2.6	7.6	7.5	3.4	1.1		23.9
Total		295.2	35.0	27.6	18.6	9.8	10.7	8.0	4.4	2.1		411.5
RESERVE FUNDING INCLUDED IN THE TOTALS:			0.5									
Notes: Totals may not add due to rounding. Prior to FY 1997 AH-1W OSIPs were budgeted in the H-1 Series P-1 Line Item.												

Exhibit P-3a		Individual Modification																				
MODIFICATION TITLE:		AH-1 Night Targeting System (OSIP 8-90)																				
MODELS OF SYSTEMS AFFECTED:		AH-1W										TYPE MODIFICATION: Safety										
<p>DESCRIPTION/JUSTIFICATION: The U.S. Marine Corps (USMC) has an operational requirement to detect, identify and destroy tactical sized armored targets with precision guided munitions during day, night and adverse weather conditions. The AH-1W can deliver TOW missiles during day operations and HELLFIRE missiles. The Night Targeting System (NTS) provides a night/adverse weather TOW and autonomous HELLFIRE capability. In addition, NTS will provide enhanced conventional weapons delivery by utilizing the systems laser ranging system. This modification has two key parts: (1) the modification of the cockpit and the canopy places a radar altimeter in the front cockpit for the first time; and (2) the NTS itself. The Night Vision Goggle Helmet mounted Display and Improved Crew Restraint System completes the NTS modification. NTS will accomplish the USMC requirement for night operations by incorporating a high resolution stabilized forward looking infra-red sensor, charged coupled device camera system, automatic target tracking, and laser range finder/designator into the current M65 telescopic sight unit. Due to changes in the TOW missile control by addition of the NTS, a Buffer Box is being incorporated to ensure proper operation of the TOW missile with the NTS.</p> <p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This was a joint effort with the Israeli Air Force and was developed under research, development, test and evaluation (RDT&E) program element 604213N, project W1378 which began in FY 1987. A Memorandum of Understanding was signed with the Government of Israel in August 1987, and implemented the acquisition strategy. Authorization to commence cockpit/canopy modifications (CCMOD) to the aircraft was granted ahead of FRP for the NTS because of the safety advantage of getting the radar altimeter in the front cockpit. NTS installations are accomplished by squadron personnel upon kit delivery. A milestone IIA decision (approval for limited production) was approved in July 1992. Approval for full production was granted February 1994. This modification will cover 128 AH-1W aircraft and four AH-1W trainers.</p>																						
FINANCIAL PLAN: (TOA, \$ in Millions)																						
	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Accelerated Kits	5	2.0																			5	2.0
NTS Kit ECP # 1648	103	106.1	15	11.1	5	4.4	5	4.3													128	126.0
A/F Kit ECP # 1648	106	31.7	17	4.3	5	1.4															128	37.5
TOW BUFFER ECP#H1-CP20-98			202	1.8																	202	1.8
Installation Kits N/R		19.2		0.4																		19.5
Installation Equipment																						
GFE Retrofit		4.6		0.4		0.1																5.2
NTS GFE	64	1.1	15	0.1		0.3															79	1.5
5 PT RESTRAINT GFE	41	1.8																			41	1.8
VCRs	108	2.9	15	0.3		0.1															123	3.4
Installation Equipment N/R		2.0																				2.0
Engineering Change Orders		6.3		1.2																		7.5
Data		0.5		0.7		*		*														1.2
Training Equipment	4	3.4		0.1		0.5															4	4.0
Support Equipment		14.8					0.1															14.9
ILS		14.1		0.1																		14.2
Other Support		19.1		1.2		1.7	0.2															22.1
Interim Contractor Support																						
Installation Cost	106	35.0		1.7	17	6.3	5	2.5													128	45.4
Total Procurement		264.7		23.5		14.9		7.0														310.0

Notes:

- Totals may not add due to rounding
- Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AH-1W**

MODIFICATION TITLE: AH-1 NIGHT TARGETING SYSTEM (OSIP 8-90)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Drive-In Modification (Turn Key) through FY97. Annualized FY98 and out.**ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 12 MonthsCONTRACT DATES: FY 1998: Jan-98FY 1999: Nov-98

FY 2000: _____

FY 2001: _____

DELIVERY DATE: FY 1998: Jan-99FY 1999: Nov-99

FY 2000: _____

FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (123) kits	106	35.0		1.7	17	6.3															123	43.0
FY 1999 (5) kits							5	2.5													5	2.5
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	106	35.0		1.7	17	6.3	5	2.5													128	45.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	95	1	4	3	3		6	6	5		2	3													
Out	89	6		1	4	3	3		6	6	5		2	3											

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										128
Out										128

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AH-1W Embedded GPS/ARC-210 Navigation Upgrade Program (OSIP 3-93)MODELS OF SYSTEMS AFFECTED: AH-1WTYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION: The Department of Defense has mandated that all U.S. military incorporate Global Positioning System (GPS) as their primary navigation equipment. GPS will provide precise location information anywhere on the globe. Incorporation of this navigation system will allow the AH-1W weapon system to remove equipment that is approaching obsolescence while improving the operational capability and reducing the overall weight of the aircraft. The ARN-118 TACAN, and ARN-89 Automatic Direction Finder, ASN-75 Gyrocompass and APN-217 Doppler Radar Set will be replaced with an Embedded GPS INS (EGI) and ARN-153(V)4 TACAN. The navigation system solution will be displayed on a modified AN/ASQ-205 Cockpit Control System.

The AN/ARC-210 is combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for Electronic Protection (EP) interoperability with the Air Force, Army and NATO. It will be installed with this modification. The radio provides a dual UHF capability for CV based TACAIR; VHF-FM for close air support and maritime channels; VHF-AM for air traffic control; and EP capabilities using the Air Force waveform (UHF-FM HAVEQUICK I AND II), and the Army developed waveform (UHF-FM SINCGARS). The EP parameters and single channel preset information can be loaded via CYZ-10 Data Transfer Device (DTD). The ARC-210 system needs accurate time signatures to perform the frequency hopping functions. These time signatures will be provided from the EGI systems. The Cobra 1.0 series of software operational flight program facilitates use of mission planning software which capitalizes on the improved communications capability and more accurate navigation provided by GPS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The EGI is a non-developmental item (NDI) being procured through the Air Force as DOD C3I. The Air Force approved a Milestone III Full Rate Production Decision March 1994. The first AN/ARC-210 Integration units were procured in FY 1993. AN/ARC-210 Milestone III Full Rate Production was approved April 1994. This modification will cover 181 AH-1W aircraft and two AH-1W trainers. FY 98 and FY 99 Other Support funds H-1 MPM compatibility /conversion.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits ECP # 1686	74	7.0	30	2.1	40	2.3	18	1.2	19	1.4											181	14.0
Installation Kits N/R		3.1																				3.1
Installation Equipment																						
GFE Retrofit						*		0.1		0.1		0.1										0.2
CDNU GFE	144	1.9	60	0.7	80	0.9	36	0.5	38	0.5											358	4.5
ARC-210 GFE	4	0.3																			4	0.3
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.6		0.4		0.3																1.3
Training Equipment	2	0.3																			2	0.3
Support Equipment		0.1																				0.1
ILS		1.0		0.2																		1.3
Other Support		4.5		2.1		2.1		0.8		0.6												10.1
Interim Contractor Support																						
Installation Cost	52	6.0	24	3.8	30	6.4	26	5.1	32	3.4	19	1.8									183	26.5
Total Procurement		24.9		9.3		12.0		7.7		5.9		1.9										61.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: AH-1W

MODIFICATION TITLE: AH-1 Embedded GPS/ARC-210 Navigation Upgrade Program (OSIP 3-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Drive-in Modification (turn-key) for kit procurements through FY 1996. FY 1997 through FY 2000 contractor drive-in modification; and FY 2001 & out contractor field modification team.

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: Feb-98

FY 1999: Dec-98

FY 2000: Dec-99

FY 2001: Dec-00

DELIVERY DATE: FY 1998: Jan-99

FY 1999: Dec-99

FY 2000: Dec-00

FY 2001: Dec-01

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (106) kits	52	6.0	24	3.8	30	6.4															106	16.2
FY 1999 (40) kits							26	5.1	14	1.7											40	6.8
FY 2000 (18) kits									18	1.7											18	1.7
FY 2001 (19) kits											19	1.8									19	1.8
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005() kits																						
TOTAL	52	6.0	24	3.8	30	6.4	26	5.1	32	3.4	19	1.8									183	26.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	44	8	8	8	8		10	10	10		8	9	9	14	6	6	6	1	6	6	6				
Out	36	8	8	8	8	8		10	10	10		5	10	11	14	6	6	6	1	6	6	6			

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										183
Out										183

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AH-1W Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting (OSIP 25-94)MODELS OF SYSTEMS AFFECTED: AH-1W TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: Marine Corps helicopters are equipped with night vision compatible internal cockpit lighting. External lights compatible with night vision goggles increase pilot safety and mission effectiveness during nighttime operations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This program utilizes off the shelf hardware to improve night vision compatibility exterior lighting on Marine helicopters. IR beacon ring lights and IR strip lights will be installed. This modification will install IR beacon rings in 182 AH-1W aircraft and two AH-1W trainers. This modification will install IR strip lights in 199 AH-1W aircraft and two AH-1W trainers.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RD&E																						
PROCUREMENT																						
Installation Kits																						
A Kit IR Beacon Light	182	1.2																			182	1.2
A Kit IR Strip Light	199	2.1																			199	2.1
Installation Kit-Unit Price																						
Installation Kits N/R	4	*																			4	*
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment	4	*																			4	*
Support Equipment																						
ILS		0.1																				0.1
Other Support		0.7																				0.7
Interim Contractor Support																						
Installation Cost	253	1.5	132	0.9																	385	2.3
Total Procurement		5.7		0.9																	385	6.5

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: AH-1W MODIFICATION TITLE: AH-1 Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting (OSIP 25-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Teams

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001:

DELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (385) kits	253	1.5	132	0.9																	385	2.3
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	253	1.5	132	0.9																	385	2.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	115	30	30	30	30	30	30	30	30	30															
Out	85	30	30	30	30	30	30	30	30	30	30														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										385
Out										385

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

AH-1W APR-39A(V)2 (OSIP 16-98)

MODELS OF SYSTEMS AFFECTED:

AH-1W

TYPE MODIFICATION:

Survivability

DESCRIPTION/JUSTIFICATION: Existing AH-1W aircraft self-protection/survivability systems are inadequate to cope with present-day threats. This engineering change incorporates a survivability system that reduces aircrew workload, centralizes control functions and increases the helicopter's survivability during operations in or near hostile territory by providing additional threat detection capabilities; and enhanced missile and laser detection systems. The EW System consists of:
a. Installation of the AN/AAR-47 Missile Warning Set
b. Modification to the existing wiring for installation of the APR-39(V)2 RWR
c. Removal of the AN/APR-44(3) Radar Warning System (MWS), and required interfaces
d. Installation of the AN/AVR-2 Laser Detecting Set (LDS)

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This program utilizes operationally approved hardware to increase aircraft self protection and survivability. This modification will cover 77 AH-1W aircraft and two AH-1W trainers.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits			76	0.5																	77	0.5
Installation Kit - Unit Price																						
Installation Kits N/R				0.1		0.1																0.2
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.1																		0.1
Training Equipment			2	0.2																	2	0.2
Support Equipment				0.4																		0.4
ILS						0.1																0.1
Other Support				0.1		0.4		0.1		0.1												0.6
Interim Contractor Support																						
Installation Cost			3	0.1	11	*	46	1.0	19	0.3											79	1.5
Total Procurement				1.4		0.7		1.1		0.4												3.5

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: AH-1W MODIFICATION TITLE:AH-1W APR-39A(V)2 (OSIP 16-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Teams

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 1998: Nov-97 FY 1999: FY 2000: FY 2001:

DELIVERY DATE: FY 1998: Mar-98 FY 1999: FY 2000: FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (79) kits			3	0.1	11	*	46	1.0	19	0.3											79	1.5
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			3	0.1	11	*	46	1.0	19	0.3											79	1.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					3				11	14	14	9	9	9	10										
Out						3				11	14	14	9	9	9	10									

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										79
Out										79

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: H-1 Mission Planning Module (MPM) and OFP Software Upgrade (OSIP 12-00)MODELS OF SYSTEMS AFFECTED: AH-1WTYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION: The H-1 MPM is a unique software module application designed to operate in and interface with the Joint Mission Planning System (JMPS) Core software architecture. The MPM links the JMPS core to the aircraft operational flight program (OFP) software. This OSIP will also provide for periodic OFP software upgrades. It is tailored to meet the mission planning requirements of the H-1 weapon system platform and makes extensive use of generic Core processing with adjustments for unique H-1 requirements. The MPM will provide the capability for the H-1 operator to effectively and efficiently plan a mission in an automated environment, thereby reducing aircrew workload. The MPM will allow for the development and refinement of specific mission data to be produced in the JMPS and then transferred to the aircraft via a Mission Data Loader/Advanced Memory Unit device. This data will include target and waypoint, threats, GPS, ARC-210, EW System, weapons, and aircraft performance information. The MPM will also allow for helicopter performance calculations, taking into consideration terrain and threat information, which will enhance survivability. As a result, the H-1 MPM and OFP software upgrades will enable the operators to more effectively plan the assigned H-1 missions and coordinate with other Service and other Marine assets.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Modification of the existing MPM is necessary to reflect the new Windows NT architecture design. FY 98 and FY 99 H-1 prior year Mission Planning developments were funded under OSIP 3-93. JMPS 7.0 Core and MPM releases are scheduled as follows: Release #1: FY01; Release #2: FY02; Release #3: FY03; Release #4: FY05

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R							1.0		0.7		1.1		0.4		0.9		0.8					4.8
Engineering Change Orders																						
Data									*		*		*				0.1					0.1
Training Equipment									*		*		*				*					0.1
Support Equipment																						
ILS																						
Other Support							0.1		0.1		0.1		0.1		0.1		0.1					0.9
Interim Contractor Support																						
Installation Cost																						
Total Procurement							1.2		0.9		1.2		0.6		1.0		1.0					5.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AH-1W Aircraft and T700 Engine Safety Corrections(OSIP 13-00)MODELS OF SYSTEMS AFFECTED AH-1WTYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The AH-1W helicopter is powered by two General Electric T700-GE-401 turboshaft engines which are controlled throughout the normal operating range by the Electrical Engine Control Unit (EECU) and the Hydro-Mechanical Unit (HMU). Since 1994, 86 total power loss incidents have occurred with the T700-GE-401; 58 ground flameouts, 7 ground roll-backs, 10 inflight shut-downs, and 11 inflight rollbacks. These inadvertent power loss incidents severely jeopardize aircrew safety. Incorporation of a Digital Electronic Control Unit (DECU) with auto-ignition system will reduce the risk of an uncommanded engine flameout and complete power loss. This change will replace the EECU with a DECU which will be carried forward into the AH-1Z. Additionally, a Dynamic Component Change (DCC) to incorporate new chip detectors

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The DECU is a General Electric proprietary, non-developmental item used on the SH-60B and aircraft equipped with T700-GE-401C. Contract award is scheduled for the 1st quarter of FY00. Installation of prototypes will be accomplished in 2nd quarter of FY01 to complete verification. Organizational level installations will commence in the 2nd quarter of FY02. This modification will cover 191 AH-1W aircraft and eight AH-1W trainers.

FINANCIAL PLAN: (TOA, \$ in Millions)

	FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																
PROCUREMENT																
Installation Kits																
AFC XXX DECU Install Kits *			4	*	84	0.1	86	0.1	17	*					191	0.2
DCC XXX 42 & 90 Degree Gearbox *							50	0.9	82	1.5	59	1.1			191	3.6
Installation Kits N/R	5	0.1		0.1	2	0.2									7	0.5
Installation Equipment	10	0.3	8	0.3	168	5.7	172	5.9	34	1.2					392	13.4
Installation Equipment N/R		1.0														1.0
Engineering Change Orders						0.1		0.1								0.2
Data				0.3		0.1		*								0.4
Training Equipment				0.4	8	0.5									8	0.9
Support Equipment				0.4												0.4
ILS				0.2		0.1		0.1		0.2						0.6
Other Support		0.2		0.9		0.5		0.3		0.5						2.4
Interim Contractor Support						0.3										0.3
Installation Cost																
Total Procurement		1.6		2.6		7.6		7.5		3.4		1.1				23.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Kits will be installed at the organizational level

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE:		February 2000			
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE H-53 Modifications					
Program Element for Code B Items:								Other Related Program Elements					
	Prior Years	ID Code	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY		A											
COST (In Millions)	247.4	A		34.6	34.5	29.2	19.9	16.2	16.7	18.7	23.7	1,641.5	2,082.4
This line item funds modifications to the CH-53D/CH-53E/MH-53E aircraft. There are 44 MH-53E Helicopters; 165 CH-53E Helicopters; and 45 CH-53D Helicopters. The CH-53E is a seven blade main rotor and a four-blade canted tail rotor helicopter powered by three T64-GE-416A turbo shaft engines on the CH-53E while the CH-53D has six main rotor blades and two T64-GE-413 engines. The CH-53D/E aircraft are capable of both land and ship based transport of heavy equipment, supplies, and personnel. The MH-53E is similar to the CH-53E with additional capabilities for Airborne Mine Countermeasures (AMCM), Vertical On-Board Delivery (VOD), and Special Missions which require longer range and more precise navigation than that of the CH-53E. The overall goal of the modifications budgeted in FY01 is increased communication and navigation, night vision capability, and fleet operation and safety performance in the H-53 community.													
The specific modifications budgeted and programmed are:													
(TOA, \$ in Millions)													
OSIP No.	Description	Prior Years		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
67-82	NIGHT VISION GOGGLES	1.9				0.2							2.2
57-88	AN/AAR-47 MISSILE WARNING SET	4.6			0.1	*							4.7
23-91	MH53E ENGINE ENHANCEMENT	38.7		1.2	2.6	2.8	1.0	0.1					46.4
11-92	AN/ARC-210 ECCM RADIO	10.4		3.3	3.7	3.0	1.8	0.3	0.4	0.5	0.5		23.7
12-92	CH-53E HELICOPTER NIGHT VISION SYSTEM	95.8		0.5	2.1	0.7							99.0
20-92	MH GLOBAL POSITIONING SYSTEM (GPS)	29.4		3.0	3.0	3.4	3.1	2.4	1.5	0.8			46.6
24-93	H-53 GLOBAL POSITIONING SYSTEM (GPS)	20.0		4.7	2.0	1.1							27.7
20-94	INCORP OF #2 ENGINE FIRE DETECTORS	2.5		1.3	0.8	0.6	0.3						5.6
21-94	(ANVIS/HUD) AN/AVS-7	8.4		1.7	2.4	2.9	2.4	2.1	0.3	1.7	0.3		22.1
22-94	CRASHWORTHY PILOT & CO-PILOT SEATS	7.8			*								7.8
26-94	(NVG) COMPATIBLE EXTERIOR LIGHTING	4.6		1.0	0.4	0.5							6.6
35-94	TRDS SHAFT DISCONNECT COUPLING MONITOR	14.9		7.6	0.5	0.2	0.1						23.3
20-97	ATTENUATING TROOP SEATS	8.4		0.3	4.4	4.5	4.7	4.3	4.7	0.8	0.4		32.5
6-98	AN/APR-39A (V) 2 UPGRADE			0.4	0.6	0.5			0.2	0.8	0.6	12.1	15.1
7-98	INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM			9.2	10.3	8.6	3.4	5.3	8.1	12.4	14.4	91.0	162.8
8-98	TACTICAL MISSION PLANNING SYSTEM (TAMPS)			0.4	1.6								1.9
08-01	IMPROVED EXTERNAL LIFTING DEVICE (IELD)						1.2	1.0					2.2
09-01	NACELLES						2.1	0.7	1.5	1.6	0.3	3.4	9.7
XX-05	SLEP										7.3	1,535.1	1,542.4
		247.4		34.6	34.5	29.2	19.9	16.2	16.7	18.7	23.7	1,641.5	2,082.4
TOTAL RESERVE FUNDING INCLUDED IN TOTAL		3.0		0.3	2.3	0.2	1.2		6.6	6.8	6.9		
Note: Totals may not add due to rounding.													
Note: * indicates amounts less than 51K													

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: NIGHT VISION GOGGLES (NVG) (OSIP 67-82)MODELS OF SYSTEMS AFFECTED: CH-53E (13)TYPE MODIFICATION: SAFETY, MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION: The present and projected threat requires low attitude helicopter operations which cannot now be conducted at night due to a lack of adequate night vision equipment. The third generation aviation NVG, with appropriate cockpit lighting modifications for compatibility, will provide increased capability for the flight crew to perform nap-of-earth and contour flying at night time in conditions of reduced illumination down to overcast starlight.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NVG were developed by the US Army and are referred to as Aviator's Night Vision Imaging System (ANVIS) or AVS-6. Army production was authorized in September 1982. US Navy approval for full production (AFP) was received in October 1986. Operational use of the AVS-6 requires modification of existing cockpit lighting to NVG compatible lighting. A quick fix lighting modification for the AVS-6 was developed by the Naval Air Test Center and kits were manufactured by the Naval Avionics Center (NAC) for the H-53 series aircraft.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E (PNCLA-37R1)	13	0.8																			13	0.8
Installation Kits N/R																						
Installation Equipment																						
CH-53E (PNCLA-37R1)		1.0																				1.0
Installation Equipment N/R																						
Engineering Change Orders																						
Data						*																*
Training Equipment		0.1																				0.1
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost							12	0.2													12	0.2
Total Procurement		1.9				*		0.2														2.2

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (12)MODIFICATION TITLE: NIGHT VISION GOGGLES (NVG) (OSIP 67-82)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Modification Teams and SDLMs

ADMINISTRATIVE LEADTIME: MonthsPRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1998:FY 1999:FY 2000:FY 2001:

DELIVERY DATE: FY 1998:FY 1999:FY 2000:FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (12) kits							12	0.2													12	0.2
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							12	0.2													12.0	0.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										3	3	3	3												
Out										3	3	3	3												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										12
Out										12

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/AAR-47 MISSILE WARNING SET (57-88)MODELS OF SYSTEMS AFFECTED: CH-53D/ETYPE MODIFICATION: READINESS AND MAINTAINABILITY

DESCRIPTION/JUSTIFICATION: The AN/AAR-47 warns of approaching missiles by detecting radiation associated with the rocket motor and automatically initiates flare ejection. Detection algorithms are used to discriminate against non-approaching radiation sources. The AN/AAR-47 is a passive, missile approach warning system consisting of four sensor assemblies housed in two or more sensor domes and a central processor unit. Control and display are via the AN/APR-39A radar warning receiver. The AN/AAR-47 provides attacking missile declaration and sector direction finding (DF) and will be interfaced directly to the AN/ALE-39 countermeasures dispenser. At present, U.S. Marine Corps helicopters have no capability to detect an infrared (IR) missile attack. The AN/AAR-47 will detect missile attack regardless of the fire control method used- IR, radio frequency or electro-optical. Thus, it will not only alleviate a critical deficiency against IR homing missile but can also serve as a limited backup to the radar warning receivers.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Two advanced development systems were developed by the Army and jointly tested/evaluated by the Navy and Army. The Navy was designated lead service for a joint full scale development program. Engineering development model contract, with firm fixed price production options, was awarded in March 1983 with contractor/service testing beginning in the first quarter FY 1985, operational evaluation on the CH-53E was completed in August 1986. Approval for full production was received in the third quarter FY 1987 with production option exercised in the first quarter FY 1988. The research, development test and evaluation, Navy (RDT&E,N) program element number is 63212N. Tmp NO. J543 applies.

METHOD OF IMPLEMENTATION: Naval Aviation Depot (NADEP) Pensacola and interservice Field Team and NADEP standard depot level maintenance (SDLM) or drive in mod (DIM) NOTE: Government furnished equipment (GFE) is procured under common ECM OSIP 72-88

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT	221	1.6																			221	1.6
Installation Kits																						
Installation Kits N/R		0.3																				0.3
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1																				0.1
Training Equipment																						
Support Equipment																						
ILS		*																				*
Other Support		0.4																				0.4
Interim Contractor Support																						
Installation Cost	203	2.2			8	0.1	2	*													213	2.3
Total Procurement		4.6				0.1		*														4.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E/DMODIFICATION TITLE: AN/AAR-47 MISSILE WARNING SET (57-88)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Modification Teams and SDLMs

ADMINISTRATIVE LEADTIME: MonthsPRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1998:FY 1999:FY 2000:FY 2001:

DELIVERY DATE: FY 1998:FY 1999:FY 2000:FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (213) kits	203	2.2			8	0.1	2	*													213	2.3
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	203	2.2			8	0.1	2	*													213	2.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In						2	2	2	3		1														
Out						2	2	2	3		1														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										10
Out										10

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: MH-53E ENGINE UPGRADE T64-GE-419 (OSIP 23-91)MODELS OF SYSTEMS AFFECTED: CH-53E (1), MH-53E (44 - 32 Active, 12 Reserve), 45 TotalTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: THE T64-GE-419 ENGINE WILL PRODUCE 5,000 SHAFT HORSEPOWER AT SEA LEVEL, WHICH WILL CORRECT AN OPEVAL DEFICIENCY CONCERNING MH-53E ONE ENGINE INOPERATIVE PERFORMANCE DURING MINE COUNTERMEASURE OPERATIONS. APPLICABLE ECP: 2626R1

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The engine modification will be accomplished in two phases: the first phase forward fitted more durable, internal components (blades, shrouds, etc.) into 416 production engines beginning in FY99. These internally modified 416 engines are designed 416A. The components offer immediate rewards of longer engine life and reduced probability of engine failure. Early incorporation has saved a total of \$7M in down-stream retrofit costs. In addition, the components serve as the core of the longer range effort to upgrade power to 5,000 horsepower. Qualification was completed in FY90. The second phase will backfit the applicable upgraded external engine components (fuel controls and pump) plus associated airframe changes (engine/engine-bay cooling and torque/fire warning mods.) FY91 procured VAL/VER for MH-53E. FY93 procured VAL/VER for CH-53E. The upgraded engine is designated the T64-GE-419.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Aircraft Kit -MH (32 Act, 12 Res)	44	7.3																			44	7.3
Aircraft Kit - CH	1	0.2																			1	0.2
Engine Oil Cooler Mod MH	90	3.5																			90	3.5
Installation Kits N/R		19.5																				19.5
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		2.2				*		*		*		*										2.4
Training Equipment	5	0.6		0.2		0.1															5	0.9
Support Equipment		0.8																				0.8
ILS		0.6				0.1		0.0		0.0		0.0										0.9
Other Support		2.8		0.3		0.2																3.3
Interim Contractor Support																						
Installation Cost	11	1.1	3	0.7	16	2.1	16	2.8	4	0.9		0.1									50	7.6
Total Procurement		38.7		1.2		2.6		2.8		1.0		0.1										46.4

Notes: Install cost includes cost for installation of Aircraft kits, engine installs, and 5 trainers

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. FYs 99-03 include spare engine installs

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (1), MH-53E (44 - 32 Active, 12 Reserve), 45 Total MODIFICATION TITLE: MH-53E ENGINE UPGRADE T54-GE-419 (OSIP 23-91)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot (NADEP) will modify the engines. Airframe modifications and engines will be performed concurrent with (SDLM) by NADEP and Interservice Field Mod Teams (FMT)

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 33 Months

CONTRACT DATES: FY 1998: 12/96 (FY97 CONT.) FY 1999: FY 2000: FY 2001:

DELIVERY DATE: FY 1998: 9/99 (FY97 CONT.) FY 1999: FY 2000: FY 2001:

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (50) kits	11	1.1	3	0.7	16	2.1	16	2.8	4	0.9		0.1									50	7.6
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	11	1.1	3	0.7	16	2.1	16	2.8	4	0.9		0.1									50	7.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	11			3		4	4	4	4	4	4	4	4	4											
Out	9	2			3		4	4	4	4	4	4	4	4	4										

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										50
Out										50

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/ARC-210 ECCM Radio (OSIP 11-92)MODELS OF SYSTEMS AFFECTED: CH-53D (47), CH-53E (158) , MH-53E (44), 249 TotalTYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION: The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed for ECCM interoperability with the Air Force, Army, and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and ECCM capabilities using the Air Force developed waveforms (UHF-AM HAVE QUICK I and II), and the Army developed waveform (VHF-FM SINGGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The ECCM parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVE QUICK and the KGV-10 transec variable, hopsets and frequency lock-out tables for SINGGARS. Applicable ECPs: CH-53E: PNCLA-4, CH-53D: PNCLA-61, MH-53E: CHPT-006

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Procurement of the validation/verification kits occurred in August 1992. CH validation/verification efforts were procured in FY 1995. Procurement of validation/verification for the MH-53E took place in FY97. Due to the deactivation of RH-53D's, the incorporation of modifications in RH-53D aircraft was canceled.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E A Kit (ECP PNCLA-47)	103	1.1	13	0.2	14	0.2	28	0.4													158	1.8
CH-53D A KIT (ECP PNCLA-61)	24	0.3	23	0.4																	47	0.8
MH-53E A KIT (ECP CHPT-006)	1	0.0	6	0.1	4	0.1	5	0.1	5	0.1	5	0.1	9	0.2	9	0.2					44	0.9
Installation Kits N/R		1.5		*		*																1.5
Installation Equipment																						
GFE ITEMS - CHE	4	0.5																			4	0.5
Installation Equipment N/R		0.1				0.9		0.6														1.7
Engineering Change Orders																						
Data		1.2		0.2		0.3		0.0														1.7
Training Equipment	4	0.3		0.1	2	*															6	0.5
Support Equipment																						
ILS		0.3		*																		0.3
Other Support		2.9		1.0		0.5		0.6		0.7												5.7
Interim Contractor Support																						
Installation Cost	67	2.1	44	1.2	45	1.6	38	1.3	36	1.0	5	0.2	5	0.2	9	0.3	9	0.5			258	8.4
Total Procurement		10.4		3.3		3.7		3.0		1.8		0.3		0.4		0.5		0.5				23.7

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53D (47), CH-53E (158) , MH-53E (44),249 Total MODIFICATION TITLE: AN/ARC-210 ECCM Radio (OSIP 11-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Naval Aviation Depot (NADEP) standard depot level maintenance (SDLM), augmented by NADEP and interservice field modification teams (FMTs).

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 13 Months

CONTRACT DATES: FY 1998: Nov-97 FY 1999: Nov-98 FY 2000: Nov-99 FY 2001: Nov-00

DELIVERY DATE: FY 1998: Dec-98 FY 1999: Dec-99 FY 2000: Dec-00 FY 2001: Dec-01

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (174) kits	67	2.1	44	1.2	45	1.6	18	0.6													174	5.5
FY 1999 (20) kits							20	0.7													20	0.7
FY 2000 (36) kits									36	1.0											36	1.0
FY 2001 (5) kits											5	0.2									5	0.2
FY 2002 (5) kits													5	0.2							5	0.2
FY 2003 (9) kits															9	0.4					9	0.4
FY 2004 (9) kits																	9	0.5			9	0.5
FY 2005 () kits																						
To Complete () kits																						
TOTAL	67	2.1	44	1.2	45	1.6	38	1.3	36	1.0	5	0.2	5	0.2	9	0.4	9	0.5			258	8.5

Note:
1. Includes 6 Trainer Installations 2. FY2001 installations include 1 kit bought prior w/NGRE funds.

Installation Schedule CH-53E (PNCLA-47) (Includes 6 Trainer Installations)

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	67	11	11	11	11	11	11	11	12	9	9	10	10	9	9	9	9	1	1	1	2	1	1	1	2
Out	67	11	11	11	11	11	11	11	12	9	9	10	10	9	9	9	9	1	1	1	2	1	1	1	2

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	2	2	2	3	2	2	2	3		258
Out	2	2	2	3	2	2	2	3		258

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: CH-53E HELICOPTER NIGHT VISION SYSTEM (HNVS)(OSIP 12-92)MODELS OF SYSTEMS AFFECTED: CH-53E (138)TYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION: The Helicopter Night Vision System (HNVS) will provide an infrared night vision system for the CH-53E transport helicopters. The HNVS provides an improved night/all weather mission capability. This OSIP includes integration of the off the shelf APN-217(V)6 Doppler Navigation System and AAQ-16B FLIR. Applicable ECP: 0231-E001

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AAQ-16B FLIR is a non-developmental Item (NDI) currently installed on a number of U.S. Army, Air Force, and Navy helicopters. DT-IIIa on the CH-53E/HNVS was completed in the third quarter FY 94. Extension of application for CH-53E was granted first quarter FY 95.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kits	138	9.3																			138	9.3
Installation Kits N/R		3.1																				3.1
Installation Equipment																						
CH-53E installation equipment	138	56.8																			138	56.8
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.6		*		0.1																0.6
Training Equipment	3	8.4																			3	8.4
Support Equipment																						
ILS		1.0																				1.0
Other Support		10.6																				10.6
Interim Contractor Support																						
Installation Cost	89	6.2	6	0.5	31	2.0	14	0.7													140	9.4
Total Procurement		95.8		0.5		2.1		0.7														99.0

NOTE: Prior years include FY 1992 funding for CH-53E GPS validation, verification, and lab integration; FY 1993 and subsequent funding for CH-53E GPS is contained in OSIP 24-93.

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. One kit is for lab integration and did not require installation

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (138) MODIFICATION TITLE: CH-53E HELICOPTER NIGHT VISION SYSTEM (HNVS)(OSIP 12-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Airframe modifications and engines will be performed concurrent with (SDLM) by NADEP and Interservice Field Mod Teams (FMT)

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000: FY 2001:

DELIVERY DATE: FY 1998: FY 1999: FY 2000: FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (140) kits	89	6.2	6	0.5	31	2.0	14	0.7													140	9.4
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	89	6.2	6	0.5	31	2.0	14	0.7													140	9.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	89	1	1	2	2	8	8	8	7	3	3	3	5												
Out	89	1	1	2	2	8	8	8	7	3	3	3	5												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										140
Out										140

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: MH Global Positioning System (NCS) (GPS) (OSIP 20-92)MODELS OF SYSTEMS AFFECTED: MH-53E (32 Active, 12 Reserve) - 44 TotalTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The Global Positioning System (GPS) is a space-based radio positioning navigation system designed to provide highly accurate navigation data (position, velocity, and time) to properly equipped users. The GPS integration into the MH-53E was to be originally accomplished via installation of the Navigation/Communication System (NCS). This system met all AMCM and GIG (DOD guidance for integration of GPS) requirements. Due to funding constraints, the NCS was cancelled in FY-99. As a result, the OSIP below has been amended to reflect cancellation of the system and reconfiguration of two aircraft previously outfitted with NCS.

Applicable ECP: CH53-011

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NAVSTAR GPS program completed Milestone IIIB in January 1992. Operational Testing (OT-IIIC) commenced in the third quarter FY95 with a recommendation of operationally suitable/operationally effective.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		32.3																				32.3
PROCUREMENT																						
Installation Kits																						
MH-53E GPS Kit (ECP CH53-011)	2	5.7	8	0.4	13	0.3	14	0.3	29	1.0	13	0.7	13	0.7							92	8.9
Installation Kits N/R		1.2		0.6		0.4		0.7														2.9
Installation Equipment																						
GFE Reconfig						0.2																0.2
Installation Equipment N/R		0.4																				0.4
Engineering Change Order		0.1		*		*																0.2
Data		1.6		*		0.1		0.2		0.5		0.1										2.5
Training Equipment	2	10.3		0.1				0.1	2	0.2											4	10.7
Support Equipment		0.2																				0.2
ILS		0.9		0.2		*				*												1.3
Other Support		8.5		1.1		0.9		1.2		0.6		0.3		0.1		0.1						12.9
Interim Contractor Support																						
Installation Cost	1	0.4	1	0.6	3	1.0	17	0.9	20	0.7	25	1.4	13	0.8	13	0.8					93	6.5
Total Procurement		29.4		3.0		3.0		3.4		3.1		2.4		1.5		0.8						46.6

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Total Kit Qty includes 2 VAL/VER Kits and 2 Reconfigured Kits.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: MH-53E (32 Active, 12 Reserve) -44 Total MODIFICATION TITLE: MH Global Positioning System (NCS) (GPS) (OSIP 20-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Initial val kit install is a turn key with verification install by NADEP Cherry Point. Subsequent installs will be accomplished by Field Mod Teams or concurrent with Standard Depot Level Maintenance (SDLM)

ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 1998: Feb-98 FY 1999: Feb-99 FY 2000: Feb-00 FY 2001: Feb-01

DELIVERY DATE: FY 1998: Sep-98 FY 1999: Jul-99 FY 2000: Jul-00 FY 2001: Jul-01

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (9) kits	1	0.4	1	0.6	3	1.0	4	0.2													9	2.2
FY 1999 (13) kits							13	0.7													13	0.7
FY 2000 (14) kits									14	0.5											14	0.5
FY 2001 (31) kits									6	0.2	25	1.4									31	1.6
FY 2002 (13) kits													13	0.8							13	0.8
FY 2003 (13) kits															13	0.8					13	0.8
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	1	0.4	1	0.6	3	1.0	17	0.9	20	0.7	25	1.4	13	0.8	13	0.8					93	6.5

- Notes:
- 1. (93) Installs= (88) Phase/II GPS+ (2) NCS Reconfigurations+ (2) GPS Trnrs+ (1) Validation Install
 - 2. Trnr Kit Installs not separately priced in FY 1996.
 - 3. One prior year kit was not installed

Installation Schedule

	FY 1997	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1	1				1	1	1		4	5	4	4	5	5	4	6	7	6	6	6	4	3	3	3
Out	1		1				1	1	1	4	5	4	4	5	5	4	6	7	6	6	6	4	3	3	3

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	4	3	3	3						93
Out	4	3	3	3						93

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: H-53 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 24-93)MODELS OF SYSTEMS AFFECTED: CH-53D (47); CH-53E (164); RH-53D (2); Total: 213TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The Global positioning System (GPS) is a space-based radio positioning navigation system designed to provide highly accurate navigation data (position, velocity, and time) to properly equipped users. It will provide the CH-53E with an improved navigation capability necessary to meet overall navigation and mission requirements. GPS operational characteristics and requirements in Naval Aircraft are specified in DCP No. 133, NAVSTAR GPS, of April 1990 and Joint Chiefs of Staff Master Navigation Plan, JCS-SM-266-83 of 27 May 1983. GPS will replace the current airborne navigation system (VOR/TACAN) as a primary means of navigation in CONUS, by the year 2000. Applicable ECPs: CH/RH-53D: 1107R1; CH-53E: PN-51

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The GPS is a non-developmental item currently being installed in all Navy aircraft. GPS completed CH-53E DT/OT testing in May 1993 with extension of application granted third quarter FY 1995. Due to deactivation of RH-53's the incorporation of this modification in RH-53D was cancelled.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53D/RH-53D Kit ECP 1107R1	49	3.8																			49	3.8
CH-53E Kit ECP PN51	138	5.7	26	1.1																	164	6.8
Installation Kits N/R		1.6																				1.6
Installation Equipment																						
GPS (CH-53E) Equip																						
PPS Equip																						*
TACAN RTS (CH-53E) Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.8		*		*		*														0.8
Training Equipment	5	0.8	1	0.2																	6	1.0
Support Equipment																						
ILS		*																				*
Other Support		5.1		1.0		0.3		0.1														6.4
Interim Contractor Support																						
Installation Cost	72	2.2	58	2.3	37	1.7	27	1.0													194	7.3
Total Procurement		20.0		4.7		2.0		1.1														27.7

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

3. 196 Installs = 213 kits procured (1- Lab, 2 -RH's, 14 War Reserve Aircraft) were not installed.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH53D (47); CH53E (164); RH53D (2); Total: 213

MODIFICATION TITLE: H-53 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 24-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Modification Teams and SDLMs

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1998: 11/97

FY 1999: 11/98

FY 2000: 11/99

FY 2001: 11/00

DELIVERY DATE: FY 1998: 5/99

FY 1999: 5/00

FY 2000: 5/01

FY 2001: 5/02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (194) kits	72	2.2	58	2.3	37	1.7	27	1.0													194	7.3
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	72	2.2	58	2.3	37	1.7	27	1.0													194	7.3

Note:
1. Does not include 6 Trainer Installations.
Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	72	15	15	14	14	10	9	9	9	7	7	7	6												
Out	72	15	15	14	14	10	9	9	9	7	7	7	6												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										194
Out										194

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Incorporation of #2 Engine Fire Detectors (OSIP 20-94)MODELS OF SYSTEMS AFFECTED: CH-53E -166 MH-53E (44) Total 210 AircraftTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The H-53E has experienced two Class "A" mishaps and several incidents as a result of undetected fires and/or overheating in the #2 engine compartment. The program will install a Commercial Off-The-Shelf (COTS) temperature sensor in the #2 engine bay to provide aircrews advance warning of overheat conditions that will provide the Aircrew with a warning of potentially hazardous heat build-up in the number two engine compartment. Applicable ECP: PN56R1

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The Contractor has conducted a survey of the #2 engine bay to measure temperatures at various engine power settings and developed a warning system utilizing COTS components. Validation Installation and Testing was completed July 1996. A government field activity will install a COTS temperature sensor and associated cockpit warning lights.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E Kits ECP PN56R1	80	0.8	40	0.4	43	0.3	3	0.0													166	1.5
MH-53E Kits ECP PN56R1	22	0.3	8	0.1	8	0.1	6	0.1													44	0.6
Installation Kits N/R		0.2																				0.2
Installation Equipment																						
Installation Equipment N/R		*																				*
Engineering Change Orders																						
Data		0.1		0.1																		0.2
Training Equipment	1	*		*	5	*															6	0.1
Support Equipment		*																				*
ILS		*																				*
Other Support		0.8		0.3		0.0		0.0		*												1.2
Interim Contractor Support																						
Installation Cost	25	0.2	59	0.5	44	0.3	53	0.5	35	0.3											216	1.7
Total Procurement		2.5		1.3		0.8		0.6		0.3												5.6

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. # of installs procured includes a total of 6 trainers

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E -166, MH-53E (44)
Total 210 Aircraft plus 6 Trainers.

MODIFICATION TITLE: Incorporation of #2 Engine Fire Detectors (OSIP 20-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Naval Aviation Depot Standard Depot Level Maintenance (SDLM) augmentedby NADEP interservice Field Mod Teams

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 13 Months

CONTRACT DATES: FY 1998: Feb-98
FY 1999: Feb-99
FY 2000: Feb-00
FY 2001: Feb-02

DELIVERY DATE: FY 1998: Mar-99
FY 1999: Mar-00
FY 2000: Mar-01
FY 2001: Mar-02

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (151) kits	25	0.2	59	0.5	44	0.3	23	0.2													151	1.2
FY 1999 (56) kits							30	0.3	26	0.3											56	0.5
FY 2000 (9) kits									9	0.1											9	0.1
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	25	0.2	59	0.5	44	0.3	53	0.5	35	0.4											216	1.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	25	14	15	15	15	9	10	12	13	5	12	24	12	23	12										
Out	25	14	15	15	15	9	10	12	13	5	12	24	12	23	12										

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										216
Out										216

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AVIATOR NIGHT VISION IMAGING SYSTEM HEAD-UP DISPLAY (ANVIS/HUD) AN/AVS-7 (OSIP 21-94)MODELS OF SYSTEMS AFFECTED: CH-53E 166 Aircraft & 4 TrainersTYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION: This modification incorporates the use of a Head-Up Display (HUD) with the AN/AVS-6 Night Vision Goggles (NVG). Helicopter crews perform missions at night using NVGs. Although NVGs provide aircrews with enhanced capability to operate during periods of darkness, they increase pilot workload due to critical flight instruments being placed outside of the visual scan. The ANVIS/HUD allows critical flight information to be displayed through the NVGs, thereby decreasing pilot workload and enhancing flight safety and mission effectiveness.

Applicable ECPs: CH-53E - PN47; CH-53D - PN61R1

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The ANVIS/HUD is a nondevelopmental system currently in use on the USMC UH-1N and CH-46, and the US Army UH-60 and CH-47. This system is being procured under an Army Contract with validation installation and DT/OT completed in FY 1996.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53D Kit ECP PN61R1																						
CH-53E Kit ECP PN47	72	1.0			15	0.2	28	0.4	20	0.3	13	0.2			18	0.3					166	2.3
Installation Kits N/R		3.6																				3.6
Installation Equipment																						
CH-53E Install Equip (incl 4 trainers)	74	1.4			17	0.9	28	1.5	20	1.1	13	0.7			18	1.3					170	6.8
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.2		*				*														0.3
Training Equipment		0.1		0.3	4	0.1															4	0.5
Support Equipment		0.2		0.2																		0.3
ILS		0.4				*																0.4
Other Support		1.4		0.7		0.6		0.6		0.7		0.8		0.1		0.1						5.0
Interim Contractor Support																						
Installation Cost	9	0.2	29	0.5	34	0.6	19	0.4	21	0.3	22	0.4	13	0.2	5	0.1	18	0.3			170	2.9
Total Procurement		8.4		1.7		2.4		2.9		2.4		2.1		0.3		1.7		0.3				22.1

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E 166 & 4 Trainers
MODIFICATION TITLE: AVIATOR NIGHT VISION IMAGING SYSTEM HEAD-UP DISPLAY (ANVIS/HUD) AN/AVS-7 (OSIP 21-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Standard Depot Level Maintenance (SDLM) augmented by Interservice Field Mod Teams

ADMINISTRATIVE LEADTIME: 7 Months
PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 1998: MAY 98
FY 1999: MAY 99
FY 2000: MAY 00
FY 2001: MAY 01

DELIVERY DATE: FY 1998: JAN 99
FY 1999: JAN 00
FY 2000: JAN 01
FY 2001: JAN 02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (72) kits	9	0.2	29	0.5	34	0.6															72	1.3
FY 1999 (19) kits							19	0.4													19	0.4
FY 2000 (28) kits									21	0.3	7	0.1									28	0.4
FY 2001 (20) kits											15	0.3	5	0.0							20	0.3
FY 2002 (13) kits													8	0.2	5	0.1					13	0.2
FY 2003 () kits																						
FY 2004 (18) kits																	18	0.3			18	0.3
FY 2005 () kits																						
To Complete () kits																						
TOTAL	9		29	0.5	34	0.6	19	0.4	21	0.3	22	0.4	13	0.2	5	0.1	18	0.3			170	2.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	9	7	7	7	8	8	8	8	10	4	5	5	5	6	5	5	5	5	5	5	7	3	3	3	4
Out	9		7	7	7	8	8	8	8	10	4	5	5	5	6	5	5	5	5	5	7	3	3	3	3

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	5				4	4	4	6		170
Out	4	5				4	4	4	6	170

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: CRASHWORTHY PILOT AND CO-PILOT SEATS (OSIP 22-94)MODELS OF SYSTEMS AFFECTED: CH-53E (96), MH-53E (16) Total 112 AcftTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The Simula Armored Crash Attenuating seats for the pilot and co-pilot are designed to provide enhanced crash survivability. Production installation of this seat began with CH-53E 153059 and MH-53E 163051. Retrofit of the remaining H-53E aircraft provides enhanced aircrew protection and also standardizes configuration throughout the fleet.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The Simula Armored Crash Attenuating seats were first qualified for use on the CH/RH-53D aircraft. Qualification and production incorporation of the seats on the CH/MH-53E aircraft was accomplished under Sikorsky Aircraft ECP 2160S1/2632S1. This program retrofits CH/MH-53E aircraft delivered prior to production incorporation crash-attenuating seats.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E CFE Kit ECP 2160S1	96	0.1																			96	0.1
MH-53E CFE Kit ECP 2632S1	16	*																			16	*
Installation Kits N/R		*																				*
Installation Equipment																						
Simula Seats (2 per A/C) - CH	210	5.9																			210	5.9
Simula Seats (2 per A/C) - MH	20	0.5																			20	0.5
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1																				0.1
Training Equipment	3	*																			3	*
Support Equipment		*																				*
ILS		*																				*
Other Support		0.1																				0.1
Interim Contractor Support																						
Installation Cost	112	0.9			3	*															115	0.9
Total Procurement		7.8				*																7.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (96), MH-53E (16) Total 112 AcftMODIFICATION TITLE: CRASHWORTHY PILOT AND CO-PILOT SEATS (OSIP 22-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Naval Aviation Depot (NADEP) Standard Depot Level Maintenance (SDLM), and by NADEP/interservice Field Mod Teams

ADMINISTRATIVE LEADTIME: MonthsPRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1998:FY 1999:FY 2000:FY 2001:

DELIVERY DATE: FY 1998:FY 1999:FY 2000:FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (115) kits	112	0.9			3	*															115	0.9
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	112	0.9			3	*															115	0.9

Note:

1. Includes 3 Trainer Installations.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	112					3																			
Out	112					3																			

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										115
Out										115

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting (OSIP 26-94)MODELS OF SYSTEMS AFFECTED: CH-53D (47); CH-53E (162); MH-53E (44), RH-53D (2 Res) 255 Total & 8 TrainersTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Current doctrine requires Naval Helicopters to be operated at night by aircrew utilizing Nags. Standard aircraft exterior position lights are not compatible with NVGs and can compromise mission accomplishments. Installation of NVG Compatible Exterior Lighting increases both safety and tactical mission effectiveness during flights involving multiple aircraft utilizing NVGs. Applicable ECPs: CH-53D/RH-53D: PN59; MH-53E: PN57; CH-53E: PN53R1

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This Congressionally mandated program uses off the shelf hardware to modify exterior lighting on H-53 helicopters. Initial installation and test for the CH-53E commenced fourth quarter of FY 1995 and continued through 2nd QTR FY96. Validation installation and testing commenced in 3rd quarter FY96 for the MH-53E and CH-53D. Kit quantities reflect 2 RH-53D Kits (VAL/VER) procured in FY94 that will not be installed due to deactivation of RH-53Ds.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53D/RH-53D Kits (ECP PN59)	49	0.5																			49	0.5
CH-53E Kits (ECP PN53R1)	162	1.1																			162	1.1
MH-53E Kits (ECP PN57)	44	0.9																			44	0.9
Installation Kits N/R		0.4																				0.4
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.2		*																		0.2
Training Equipment	8	0.1		*																	8	0.1
Support Equipment		*																				*
ILS		0.2																				0.2
Other Support		0.4																				0.4
Interim Contractor Support																						
Installation Cost	67	0.9	113	1.0	33	0.4	37	0.5													250	2.8
Total Procurement		4.6		1.0		0.4		0.5														6.6

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Installations do not include 2 RH-53D kits and 11 War Reserve Aircraft

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53D (47); CH-53E (162); MH-53E (44)
RH-53D (2 Res) 255 Total & 8 Trainers

MODIFICATION TITLE: Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting (OSIP 26-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Naval Aviation Depot (NADEP) Standard Depot Level Maintenance (SDLM) and by NADEP/Interservice Field Mod Teams

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000:

DELIVERY DATE: FY 1998: FY 1999: FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (250) kits	67	0.9	113	0.9	33	0.4	37	0.5													250	2.8
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	67	0.9	113	0.9	33	0.4	37	0.5													250	2.8

1. Installations do not include 2 RH-53D kits & 11 War Reserve Aircraft.

Installation Schedule, (includes 8 trainer installs)

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	67	28	28	28	29	9	9	8	7	9	9	9	10												
Out	67	28	28	28	29	9	9	8	7	9	9	9	10												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										250
Out										250

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: TAIL ROTOR DRIVE SHAFT DISCONNECT COUPLING MONITOR (OSIP 35-94)MODELS OF SYSTEMS AFFECTED: CH-53E (167), MH-53E (44), 211 Total Aircraft & 6 TrainersTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The H-53E community has experienced several Class "A" mishaps due to failure of the Tail Rotor Drive Shaft disconnect coupling duplex bearing. This program will install a vibration/temperature sensor on the disconnect coupling to warn aircrews of duplex bearing degradation or impending failure.

Applicable ECPs: 2175R4/2666R4.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The Coupling Monitor mod program commenced in FY92 with installation of 4 prototype systems for a one year demo. After successful completion of the demo four VAL/VER kits (2CH/2MH) were procured in FY95 with installation scheduled in FY96/97. In June 96 a CH53E experienced a Class "A" mishap as a result of a main rotor swashplate bearing failure. VAL was completed Aug 98, and VER installations of the Coupling Monitor was deferred so that the system could be expanded and redesigned to incorporate monitoring of temperature and vibration in the main rotor swashplate assembly. In April 97 the contract for the Coupling Monitor was modified to include the additional functionality and to accelerate procurement and retrofit of the Bearing Monitor system. The Preliminary Design Review for the modified system was held in January 97 and the critical Design Review was held in April 97.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E/MH-53E Kits ECP 2175R4/2666	90	4.1	124	5.8																	214	9.9
Installation Kits N/R		6.8																				6.8
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.7				0.1																0.8
Training Equipment	6	0.6																			6	0.6
Support Equipment		0.1		*																		0.2
ILS		0.7		0.1																		0.8
Other Support		0.4		0.1		0.3		0.2														1.0
Interim Contractor Support																						
Installation Cost	86	1.5	116	1.6		*		*	6	0.1											208	3.2
Total Procurement		14.9		7.6		0.5		0.2		0.1												23.3

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. 2 FY95 kits procured but not installed, 1 Kit for MH Prototype procured but not installed; 9 @ AMARC = 208 total installs.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (167); MH-53E (44), 211 Total Aircraft & 6 Trainers

MODIFICATION TITLE: TAIL ROTOR DRIVE SHAFT DISCONNECT COUPLING MONITOR (OSIP 35-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Turn-key - Contractor Field Mod Teams

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: Mar-98

FY 1999:

FY 2000:

DELIVERY DATE: FY 1998: Mar-99

FY 1999:

FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (208) kits	86	1.5	116	1.6				0.0	6	0.1											208	3.2
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	86	1.5	116	1.6				*	6	0.1											208	3.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	86	29	29	29	29									6											
Out	86	29	29	29	29									6											

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										208
Out										208

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: ATTENUATING TROOP SEATS (OSIP 20-97)MODELS OF SYSTEMS AFFECTED: CH-53D (46), CH-53E (165), MH-53E (44)TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Utility and Troop transport mission increasing in importance. Current troop/passenger seats are 1950 generation. Design does not provide impact protection of current rotorcraft seat designs. The impulsive type loading experienced during survivable mishaps produces amplified seat/floor anchor loads and potentially injurious occupant decelerations. Due to this operational deficiency, NDI crashworthy troop seat program established. NDI are lightweight off-the-shelf seats that provide protection by limiting an occupants inertial loading to survivable levels by attenuating impact forces to below survivable ranges and enables the occupant to rapidly egress a downed aircraft are being sought. Applicable ECP: H53-010

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: NDI procedures utilized for the Procurement, Installation and Support of the seats for all 47 CH-53D Helicopters. Funding for the 47 seats and associated requirements were appropriated in 1997. Program consists of a one-time procurement with a turn-key installation approach. FY-98 through 05 provides for procurement, installation, and support of the CH-53E and MH-53E helicopters.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53D Kit	46	4.6																			46	4.6
CH-53E Kit					3	0.6	52	3.4	52	3.4	52	3.5	6	0.5							165	11.4
MH-53E Kit					2	0.4							42	3.2							44	3.6
Installation Kits N/R				0.3		1.6																1.9
Installation Equipment																						
Seat testing		0.3																				0.3
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX		0.3																				0.3
Data		0.2				0.1		*		0.2												0.5
Training Equipment																						
Support Equipment																						
ILS		0.3								0.3												0.6
Other Support		1.2				1.7		1.1		0.1		0.1		0.2		0.1						4.6
Interim Contractor Support																						
Installation Cost	46	1.5					5	*	44	0.7	44	0.7	48	0.8	43	0.7	25	0.4			255	4.7
Total Procurement		8.4		0.3		4.4		4.5		4.7		4.3		4.7		0.8		0.4				32.5

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53D (46), CH-53E (165), MH-53E (44) MODIFICATION TITLE: ATTENUATING TROOP SEATS (OSIP 20-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Modification Teams and SDLMs

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 11 Months

CONTRACT DATES: FY 1998: FY 1999: Dec-98 FY 2000: Dec-99 FY 2001: Dec-00

DELIVERY DATE: FY 1998: FY 1999: Nov-99 FY 2000: Nov-00 FY 2001: Nov-01

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (46) kits	46	1.5																			46	1.5
FY 1999 (5) kits							5	*													5	0.0
FY 2000 (52) kits									44	0.7	8	0.1									52	0.8
FY 2001 (52) kits											36	0.6	16	0.3							52	0.8
FY 2002 (52) kits													32	0.5	20	0.3					52	0.8
FY 2003 (48) kits															23	0.4	25	0.4			48	0.8
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	46	1.5					5	*	44	0.7	44	0.7	48	0.8	43	0.7	25	0.4			255	4.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	46									5				11	11	11	11	11	11	11	11	12	12	12	12
Out	46									5				11	11	11	11	11	11	11	11	12	12	12	12

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	11	11	11	10	6	6	6	7		255
Out	11	11	11	10	6	6	6	7		255

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/APR-39A (V) 2 UPGRADE (OSIP 6-98)MODELS OF SYSTEMS AFFECTED: CH-53E/MH-53E 165 CH-53E, 44 MH-53ETYPE MODIFICATION: MISSION/MISSION ENHANCEMENT

DESCRIPTION/JUSTIFICATION: The AN/APR-39A (V) 2 is a passive threat warning system primarily intended for use on helicopters and slow fixed-wing aircraft. Its purpose is to monitor the RF environment and detect, analyze, discriminate, identify and prioritize threats, unknown and friendly radar and missile guidance signals. Aircrew warning is provided by means of alphanumeric symbology on a 3-inch CRT cockpit display and an aural warning via the aircraft Interconnecting Communication System (ICS). This change is being incorporated to improve aircraft survivability by providing for detection and display of surface-to-air missile and anti-aircraft radar threats. GFE "P" kits are to be procured under common OSIP 14-90, PMA-272. ECP: H53-008R1.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Retrofit installations were originally scheduled to commence in FY92 (OSIP 6-91), however, the APR-39A (V) 2 failed technical evaluation delaying modifications as originally planned. System successfully passed a Combined OPEVAL/TECHEVAL ON UH-1N aircraft, during Oct 95 system was approved for retrofit on other platforms.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E					2	0.1							5	0.1					158	3.4	165	3.5
MH-53E															2	*			42	0.6	44	0.6
Installation Kits N/R															0.2							0.2
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				*		0.1		0.3							0.1		0.1					0.5
Training Equipment						*													6	0.2	6	0.2
Support Equipment				0.1																		0.1
ILS						*		*							*		*					0.1
Other Support				0.2		0.4		0.1					0.1		0.3		0.3		0.9			2.3
Interim Contractor Support																						
Installation Cost					1	0.1		1	*						5	0.1	2	0.2	206	7.0	215	7.4
Total Procurement				0.4		0.6		0.5					0.2		0.8		0.6		12.1			15.1

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Kit buys incl 2 Val/Ver (1 CH/1 MH)

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E/MH-53E 165 CH-53E, 44 MH-53E

MODIFICATION TITLE: AN/APR-39A (V) 2 UPGRADE (OSIP 6-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Naval Aviation Depot (NADEP) Standard Depot Level Maintenance (SDLM), augmented by NADEP and interservice field mod teams

ADMINISTRATIVE LEADTIME: 5 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1998: FY 1999: Feb-99 FY 2000: FY 2001:

DELIVERY DATE: FY 1998: FY 1999: Aug-99 FY 2000: FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (2) kits					1	0.1	1	*													2	0.1
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 (5) kits															5	0.1					5	0.1
FY 2004 (2) kits																	2	0.2			2	0.2
FY 2005 () kits																						
To Complete (206) kits																			206	7.0	206	7.0
TOTAL					1	0.1	1	*							5	0.1	2	0.2	206	7.0	215	7.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									1		1														
Out									1		1														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	1	1	1	2	1	1			206	215
Out	1	1	1	2	1	1			206	215

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: HELICOPTER INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM (IMDS) (OSIP 7-98)MODELS OF SYSTEMS AFFECTED: CH-53E - 165; MH-53E - 44TYPE MODIFICATION: SAFETY, READINESS AND MAINTAINABILITY

DESCRIPTION/JUSTIFICATION: IMD is a helicopter monitoring and diagnostics system that provides continuous on board monitoring and diagnostics of engine health, gearbox and drive train vibrations, oil debris, rotor track and balance, and crash protected Cockpit Voice and Flight Data recorder (CVFDR). CVFDR, an integral part of the IMD system, will perform the required function of a Flight Incident Recorder (FIR). An Early Operational Assessment (EOA) of a Commercial Off-the-Shelf system on two CH-53E's is scheduled for FY96-98. Lessons learned from this effort will be incorporated into the solicitation for the fleet wide IMD effort of which the H-53E is the lead platform.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The H-53E prototype effort in FY98-99 is a pilot program to be conducted at HMT-302 to validate a production representative system prior to Milestone III decision in FY00. An integration verification period for the remaining H-53E platforms will then be followed by production.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E A Kit							6	1.1	3	0.5	10	1.9	10	1.9	18	3.5	18	3.6	100	21.6	165	34.0
MH-53E A Kit													4	0.8	4	0.8	4	0.8	20	4.3	32	6.6
MH-53E Reserve Kit															3	0.6	3	0.6	6	1.2	12	2.4
Installation Kits N/R				3.3		3.4																6.7
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.5		0.2		1.4				0.9										2.9
Training Equipment							1	0.2					7	0.9							8	1.1
Support Equipment								0.1		0.1		0.1		0.1		0.2						0.4
ILS				0.6		0.5		1.3		0.4		0.4		0.3		0.6		0.6		3.0		7.6
Other Support				4.8		6.4		4.5		1.2		1.1		1.9		3.0		3.4		11.4		37.7
Interim Contractor Support								0.1		0.4		0.2		0.7		1.4		1.5		20.6		24.9
Installation Cost									6	0.8	4	0.8	10	1.6	21	2.5	25	4.0	151	28.9	217	38.4
Total Procurement				9.2		10.3		8.6		3.4		5.3		8.1		12.4		14.4		91.0		162.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E - 165; MH-53E - 44MODIFICATION TITLE:HELICOPTER INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM (IMDS) (OSIP 7-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: CONTRACTOR INSTALLED

ADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 1998:FY 1999:FY 2000: 10-99FY 2001: 10-00

DELIVERY DATE: FY 1998:FY 1999:FY 2000: 7-00FY 2001: 7-01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (7) kits									6	0.8	1	0.2									7	1.0
FY 2001 (3) kits											3	0.6									3	0.6
FY 2002 (10) kits													10	1.6							10	1.6
FY 2003 (21) kits															21	2.5					21	2.5
FY 2004 (25) kits																	25	4.0			25	4.0
FY 2005 (25) kits																			25	4.0	25	4.0
To Complete (126) kits																			126	24.9	126	24.9
TOTAL									6	0.8	4	0.8	10	1.6	21	2.5	25	4.0	151	28.9	217	38.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In														2	2	1	1	1	1	1	1	2	2	3	3
Out														2	2	1	1	1	1	1	1	2	2	3	3

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	5	5	5	6	6	6	6	7	151	217
Out	5	5	5	6	6	6	6	7	151	217

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: TACTICAL MISSION PLANNING SYSTEM (TAMPS) (OSIP 8-98)MODELS OF SYSTEMS AFFECTED: CH-53D/E & MH-53ETYPE MODIFICATION: READINESS AND MAINTAINABILITY

DESCRIPTION/JUSTIFICATION: The Tactical Air Mission Planning System (TAMPS) is a computer based mission planning system. This system uses platform specific software to aide in the preparation of flight plans for tactical scenarios. Current H-53 program reflects the base minimum needed to be incorporated in the TAMPS core without specific platform requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: TAMPS has been identified as the only mission planning system for all Naval Mission Planning Systems. This direction stems from a CNO memo SER N8/3U653136 of 10 Sept 93.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support				0.4		1.6																1.9
Interim Contractor Support																						
Installation Cost																						
Total Procurement				0.4		1.6																1.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Improved External Lifting Device (IELD) (08-01)MODELS OF SYSTEMS AFFECTED: CH/MH-53E 165 CH-53E 9 MH-53ETYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The (IELD) Improved External Lifting Device will be a non material system to improve the external load capability of the CH/MH-53E. The system will give the aircrew the capability to carry three individual external loads and disburse them in three separate locations. This capability does not currently exist in the H-53E.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: FY00 will be the NRE effort funded in R&D to establish hardware requirements to effectively use current on board systems to accomplish the IELD goal. This effort will commence at NAWC(AD). APN-5 efforts commence with Val/Ver in 4Q FY01 with kit buys in FY01 and installs beginning in FY02.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E											165	0.5											165	0.5
MH-53E											9	*											9	*
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data											0.4													0.4
Training Equipment													6	*									6	*
Support Equipment																								*
ILS											0.1													0.1
Other Support											0.1													0.1
Interim Contractor Support																								
Installation Cost											1	*	179	1.0									180	1.0
Total Procurement											1.2		1.0											2.2

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Kit buys incl 2 Val/Ver (1 CH/1 MH)

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH/MH-53E 165 CH-53E 9 MH-53E

MODIFICATION TITLE: Improved External Lifting Device (IELD) (08-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Teams

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000: FY 2001: Dec-00

DELIVERY DATE: FY 1998: FY 1999: FY 2000: FY 2001: Jun-01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 (180) kits									1	*	179	1.0									180	1.0
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL									1	*	179	1.0									180	1.0

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																	1	45	45	45	44				
Out																	1	45	45	45	44				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										180
Out										180

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Engine Nacelles (09-01)MODELS OF SYSTEMS AFFECTED: CH/MH-53E 165 CH-53E 44 MH-53E TYPE MODIFICATION: MISSION/MISSION ENHANCEMENT

DESCRIPTION/JUSTIFICATION: This modification provides improvements to the engine nacelles which are intended to decrease the maintenance man-hours expended on nacelles repair and replacement. This modification will incorporate the forward and aft engine nacelles for the CH-53E and MH-53E.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Contract award planned for 2nd Qtr. FY 01. Anticipate kit delivery beginning 3 mths from award.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E											20	0.8	17	0.7	28	1.1	37	1.5	8	0.3	55	2.5	165	6.8
MH-53E											10	0.4			10	0.4	3	0.1			21	0.9	44	1.9
Installation Kits N/R												0.3												0.3
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data											0.3													0.3
Training Equipment																								
Support Equipment																								
ILS																								
Other Support											0.3		*		*		*		*		0.0			0.4
Interim Contractor Support																								
Installation Cost											*													*
Total Procurement											2.1		0.7		1.5		1.6		0.3		3.4			9.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Kit buys incl 2 Val/Ver (1 CH/1 MH)

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: February 2000																																																																																																																																																																																																								
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE H-60 Modifications																																																																																																																																																																																																								
Program Element for Code B Items: 28							Other Related Program Elements																																																																																																																																																																																																								
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																																																																																																			
QTY		A																																																																																																																																																																																																													
COST (In Millions)	295.0	A	71.1	136.6	57.5	21.1	15.9	14.3	20.3	25.8	6.6	664.3																																																																																																																																																																																																			
<p>This line item funds modifications to H-60 series aircraft. The H-60 series current inventory is comprised of:: 38 HH-60H, 163 SH-60B and 76 SH-60F aircraft. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60B comprise of 2 NSH-60B and 1 additional SH-60F aircraft, reflects YSH-60F. The design service life of these weapon systems is 10,000 hours, the average service life remaining is as follows: SH-60B 4,946 hours, SH-60F 7,557 and HH-60H 7,691. The SH-60B is the vehicle component of the LAMPS MK III Weapon System on surface combatants. The primary missions of the SH-60B are Anti-Submarine (ASW) and Anti-Surface Warfare (ASUW). The SH-60F is an ASW, dipping sonar helicopter assigned to carrier airwings based aboard aircraft carriers (CV). The SH-60F primary mission is protection of the CV inner zone. The HH-60H is a Combat Search and Rescue (CSAR) and Special Warfare Support (SWS) helicopter assigned to carrier airwings aboard CVs and also in two reserve squadrons. SH-60B requirements are driven by the number of LAMPS MK III ships to be supported. The overall goal of the modifications budgeted in FY 2001 is to continue the Block I upgrade, Forward Looking Infrared (FLIR) efforts, the T-700 Engine Improvement program, the Armed Helo program, the Integrated Mechanical Diagnostic System (IMDS), the H-60 Ultra Low Maintenance Battery, and the H-60 Heater Test Set. The specific modifications budgeted and programmed are:</p> <p style="text-align: center;">(TOA, \$ in Millions)</p> <table border="1"> <thead> <tr> <th>OSIP No.</th> <th>Description</th> <th>Prior Years</th> <th>FY 1998</th> <th>FY 1999</th> <th>FY 2000</th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> <th>FY 2004</th> <th>FY 2005</th> <th>To Complete</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>04-91</td> <td>Block I Upgrade</td> <td>167.3</td> <td>22.0</td> <td>4.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>193.3</td> </tr> <tr> <td>48-92</td> <td>FLIR/HELLFIRE</td> <td>7.7</td> <td>0.4</td> <td>0.6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8.7</td> </tr> <tr> <td>14-94</td> <td>GPS MAR Compliance Mission Data Loader</td> <td>3.7</td> <td>0.5</td> <td>0.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4.4</td> </tr> <tr> <td>15-94</td> <td>Forward Looking Infrared</td> <td>40.5</td> <td>25.0</td> <td>54.6</td> <td>2.6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>122.7</td> </tr> <tr> <td>26-95</td> <td>Aircraft Survivability Equipment (ASE)</td> <td>24.1</td> <td>2.4</td> <td>21.9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>48.4</td> </tr> <tr> <td>27-95</td> <td>Night Vision Goggles (NVG HUD)</td> <td>3.3</td> <td>0.7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4.0</td> </tr> <tr> <td>08-96</td> <td>T700 Engine Improvements</td> <td>8.2</td> <td>1.2</td> <td>6.8</td> <td>1.9</td> <td>0.7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>18.8</td> </tr> <tr> <td>10-96</td> <td>Armed Helo</td> <td>40.2</td> <td>19.0</td> <td>48.4</td> <td>31.7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>139.2</td> </tr> <tr> <td>17-00</td> <td>Helicopter Integrated Mechanical Diagnostic System (IMD)</td> <td></td> <td></td> <td></td> <td>16.2</td> <td>19.3</td> <td>14.3</td> <td>14.3</td> <td>14.2</td> <td>21.1</td> <td></td> <td>99.4</td> </tr> <tr> <td>25-00</td> <td>Sonar Improvements</td> <td></td> <td></td> <td></td> <td>5.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5.0</td> </tr> <tr> <td>06-01</td> <td>H-60 Ultra Low Maintenance Battery</td> <td></td> <td></td> <td></td> <td></td> <td>0.9</td> <td>1.6</td> <td></td> <td></td> <td></td> <td></td> <td>2.5</td> </tr> <tr> <td>07-01</td> <td>H-60 Heater Test Set</td> <td></td> <td></td> <td></td> <td></td> <td>0.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.1</td> </tr> <tr> <td>XX-04</td> <td>H-60 Safety Related Systems Upgrade</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6.2</td> <td>4.7</td> <td>6.6</td> <td>17.5</td> </tr> <tr> <td>TOTAL</td> <td></td> <td>295.0</td> <td>71.1</td> <td>136.6</td> <td>57.5</td> <td>21.1</td> <td>15.9</td> <td>14.3</td> <td>20.3</td> <td>25.8</td> <td>6.6</td> <td>664.3</td> </tr> </tbody> </table> <p>NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING.</p>													OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total	04-91	Block I Upgrade	167.3	22.0	4.1								193.3	48-92	FLIR/HELLFIRE	7.7	0.4	0.6								8.7	14-94	GPS MAR Compliance Mission Data Loader	3.7	0.5	0.2								4.4	15-94	Forward Looking Infrared	40.5	25.0	54.6	2.6							122.7	26-95	Aircraft Survivability Equipment (ASE)	24.1	2.4	21.9								48.4	27-95	Night Vision Goggles (NVG HUD)	3.3	0.7									4.0	08-96	T700 Engine Improvements	8.2	1.2	6.8	1.9	0.7						18.8	10-96	Armed Helo	40.2	19.0	48.4	31.7							139.2	17-00	Helicopter Integrated Mechanical Diagnostic System (IMD)				16.2	19.3	14.3	14.3	14.2	21.1		99.4	25-00	Sonar Improvements				5.0							5.0	06-01	H-60 Ultra Low Maintenance Battery					0.9	1.6					2.5	07-01	H-60 Heater Test Set					0.1						0.1	XX-04	H-60 Safety Related Systems Upgrade								6.2	4.7	6.6	17.5	TOTAL		295.0	71.1	136.6	57.5	21.1	15.9	14.3	20.3	25.8	6.6	664.3
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																																																																																																			
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17-00	Helicopter Integrated Mechanical Diagnostic System (IMD)				16.2	19.3	14.3	14.3	14.2	21.1		99.4																																																																																																																																																																																																			
25-00	Sonar Improvements				5.0							5.0																																																																																																																																																																																																			
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TOTAL		295.0	71.1	136.6	57.5	21.1	15.9	14.3	20.3	25.8	6.6	664.3																																																																																																																																																																																																			

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Block I Upgrade (OSIP 4-91)MODELS OF SYSTEMS AFFECTED: SH-60BTYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION:

This block retrofit is to upgrade the previously delivered aircraft to the latest production configuration. Improvements are in the areas of armament and avionics. The alternative to this retrofit would be multiple configurations or over half of the LAMPS MK III inventory in a less than current configuration. Lot1-8 were retrofit aircraft. Lot IX was off the production line. There were 95 Helo's modified; there are 163 SH-60Bs in inventory, comprising of 2 NSH-60B. The SH-60B Block Upgrade 1 consists of the following mission enhancements: 1) Advanced Light Weight Torpedo - Integrating the capability to carry and launch the MK-50 Torpedo/Penguin Missile 2) 99 Channel - Integrating the capability to utilize 99 channel sonobuoys 3) Global Positioning System (GPS) - Integrating and installing the GPS components 4) AN/ARC-182- Radio set 5) Maintainability/Operability Items - Tail rotor cable guides, floatation upgrade, hoist control, tail rotor disconnect coupling, high speed. T shaft improvements and electronic support measures antenna upgrade 6) Survivability - Provides capability for missile jamming, detection and evasion and 7) Powertrain Upgrade - Modifies selected engine componenyts to upgrade a T700-401 engine to a T700-401C engine. This requirement is required per ORD # SOR 12-18.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

All development milestone were completed prior to FY91.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit 1	10	6.9																			10	6.9
Kit2	16	3.4																			16	3.4
Kit 3	13	2.3																			13	2.3
Kit 4	7	1.5																			7	1.5
Kit 5	15	10.9																			15	10.9
Kit 6	23	8.4																			23	8.4
Kit 7	6	0.2																			6	0.2
Kit 8	5	0.6																			5	0.6
Kit A	46	21.7																			46	21.7
Kit B	15	6.0																			15	6.0
Kit C	29	8.7																			29	8.7
Penguin	22	2.4																			22	2.4
Engine	46	2.5																			46	2.5
Antenna	484	1.9																			484	1.9
M-60 Mission Kit	88	1.1																			88	1.1
AN/ARR-84 Kit	45	0.2																			45	0.2
Installation Kits N/R		11.3																				11.3
Installation Equipment																						
ARC-182	97	3.2																			97	3.2
ARR-84	97	14.1																			97	14.1

Exhibit P-3a		Individual Modification																				
MODIFICATION TITLE:		<u>Block I Upgrade (OSIP 4-91)</u>																				
MODELS OF SYSTEMS AFFECTED:		<u>SH-60B</u>	TYPE MODIFICATION: <u>Operational Enhancement</u>																			
FINANCIAL PLAN: (TOA, \$ in Millions)																						
	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
ARN-146	91	1.5																			91	1.6
ALQ-144 (VP)2	79	5.2																			79	5.2
ALE-39	85	1.6																			85	1.6
ARR-47	90	4.4																			90	4.4
AYK-14	90	9.5	1	0.1																	91	9.7
OA8967	90	0.5																			90	0.5
MK-50 Cables	78	0.2																			78	0.2
RIM		1.7																				1.7
Penguin		3.3																				3.3
Installation Equipment N/R																						
Engineering Change Orders																						
Data		4.3																				4.3
Training Equipment		0.2		10.8																		11.0
Support Equipment																						
ILS																						
Other Support		2.0		0.4		2.4																4.7
Interim Contractor Support																						
Installation Cost	71	25.6	16	10.6	8	1.8															95	38.0
Total Procurement		167.3		22.0		4.1																193.4

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: SH-60B

MODIFICATION TITLE:Block I Upgrade (OSIP 04-91)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field and Plant Mod Teams

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1997: Mar-97

FY 1998:

FY 1999:

FY 2000:

DELIVERY DATE: FY 1997: Sep-98

FY 1998:

FY 1999:

FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (95) kits	71	25.6	16	10.6	8	1.8															95	38.0
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	71	25.6	16	10.6	8	1.8															95	38.0

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	71	5	5	3	3	2		6									
Out	71	5	4	4	3	2		6									

			4	To Complete	TOTAL
	2	3			
In					95
Out					95

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: HH-60H FLIR/HELLFIRE (48-92)MODELS OF SYSTEMS AFFECTED: HH-60HTYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION:

The Forward Looking Infrared (FLIR) Sensor and Hellfire weapons system, is being incorporated on the HH-60H aircraft. This is required to meet unfulfilled requirements for forward firing weapons and FLIR per ORD# Ser 377-88-94. This OSIP procures and install 24 FLIR/Hellfire "A" kits. This modification provides enhanced target detection, designation and defensive and survival capabilities. The current HH-60H inventory is 38; 24 active duty Navy aircraft are being modified. 1 HH-60H is currently being rebuilt at Troy, AL.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Provisions	24	4.1																			24	4.1
Installation Kits N/R		2.0																				2.0
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.4																				0.4
Training Equipment		0.1																				0.1
Support Equipment		0.1																				0.1
ILS		0.5																				0.5
Other Support		0.4																				0.4
Interim Contractor Support																						
Installation Cost	1	0.1	9	0.4	14	0.6															24	1.1
Total Procurement		7.7		0.4		0.6																8.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: HH-60H MODIFICATION TITLE: FLIR/Hellfire (OSIP 48-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contract Field Mod Team

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (24) kits	1	0.1	9	0.4	14	0.6															24	1.1
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	1	0.1	9	0.4	14	0.6															24	1.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1			3	6	6	6	2									
Out	1			3	6	6	6	2									

	FY 2002				To Complete	TOTAL
	1	2	3	4		
In						24
Out						24

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: GPS MAR Compliance - Mission Data Loader (MDL) (OSIP 14-94)MODELS OF SYSTEMS AFFECTED: HH-60H/SH-60FTYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: The GPS integration into the SH-60F/H must meet the requirements of the "DoD Minimum Avionics Requirements (MAR) for the Global Positioning System Sole Means of Navigation" document. This change will add a Mission Data Loader (MDL) to the existing GPS suite, thereby providing the appropriate number of Waypoints required to achieve MAR compliance. The current inventory is 38 HH-60Hs and 76 SH-60Fs. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, and 1 additional SH-60F aircraft, reflects YSH-60F; this modification is being added to all systems.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Installation of the basic GPS into the SH-60F was accomplished under ECP 3508R1-2. Installation of the basic GPS into the HH-60H was accomplished under AEL ECP 90-2. The preliminary design review (PDR) was completed November 1990 and the critical design review (CDR) was completed in April 1991. Developmental and operational testing have been completed. PMW-167 is procuring the MDL under common OSIP 71-88.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
SH-60F KIT	51	0.2	27	0.1																	105	0.4
HH-60H KIT (Active)	24	0.1																			42	0.2
HH-60H KIT (Reserve)	18	0.1																			18	0.1
Installation Kits N/R		2.4																				2.4
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.2																				0.2
Training Equipment		0.2																				0.2
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost	48	0.6	45	0.4	27	0.2															120	1.2
Total Procurement		3.7		0.5		0.2																4.4

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: HH-60H/SH-60FMODIFICATION TITLE: GPS MAR Compliance (OSIP 14-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Navy Field Mod TeamsADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 18 MonthsCONTRACT DATES: FY 1998: Nov-97

FY 1999: _____

FY 2000: _____

DELIVERY DATE: FY 1998: Jan-99

FY 1999: _____

FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (120) kits	48	0.6	45	0.4	27	0.2															120	1.2
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	48	0.6	45	0.4	27	0.2															120	1.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	48		15	15	15		13	14									
Out	44	4	15	15	15		13	14									

	FY 2002				To Complete	TOTAL
	1	2	3	4		
In						120
Out						120

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Forward Looking Infrared (FLIR) (OSIP 15-94)MODELS OF SYSTEMS AFFECTED: SH-60BTYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: The FLIR mission kits consist of FLIR turrets, associated integration electronics, controlling software, required interface cables, and mounts. Linking the FLIR imagery to the ship will be accomplished through modifications to the unique SH-60B data link (ARQ-44). Retrofit kits to accomplish this are included herein. The FLIR contingency kit will provide a passive detection, classification and tracking capability of surface contacts. The current SH-60B inventory is 163 SH-60B. Inventory shows 2 comprise of NSH-60B; all are being modified. This requirement is dictated in ORD#323(1-86-94) Rev.1. Ten additional are kits required for: (4) lab requirements (2) testing requirements and (4) trainers.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: FLIR is a non-developmental item that is not currently in the military inventory. Its design represents a composite of existing electro-optic components reconfigured in a manner to meet unique H-60 requirements. FOT&E is complete.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-267	149	8.7	24	3.6	5	0.3															178	12.6
Installation Kits N/R																						
Installation Equipment																						
FLIR Mission Kit	18	25.4	5	7.0	37	45.3															60	77.7
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.3																		0.3
Training Equipment				12.5		8.6		2.6														23.7
Support Equipment		4.8																				4.8
ILS				*																		0.0
Other Support		1.6		1.6		0.3																3.6
Interim Contractor Support																						
Installation Cost																						
Total Procurement		40.5		25.0		54.6		2.6														122.7

Notes:

1. Totals may not add due to rounding
2. *=value less than \$50K.

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Aircraft Survivability Equipment (ASE) (OSIP 26-95)MODELS OF SYSTEMS AFFECTED: HH-60HTYPE MODIFICATION: Operational Safety

DESCRIPTION/JUSTIFICATION: The HH-60H ASE upgrade includes the following APR-39A(V)2 Radar Warning System, AAR-47 Missile Plume Detector, AVR-2 Laser Detector, and ALE-47 countermeasures dispenser. This equipment will be incorporated to meet the primary mission requirements as dictated in HH-60H OR#085-05-86. The HH-60H current inventory is 38.. This change will upgrade all Active Navy and the Reserves HH-60Hs to the same configuration.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Installations of the ASE equipment was initiated under AEL ECP 89-03. DT was successfully completed in April 1992 and OT was completed in February 1993. The initial procurement of the ASE suites for the Reserve HH-60Hs was conducted in 1993 with NGRE funding.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Active Duty Kits	22	2.2																			22	2.2
Reserve Kits	16	0.1																			16	0.1
Installation Kits N/R	4	2.8																			4	2.8
Installation Equipment																						
APR-39(V)2 Active Duty	24	4.8																			24	4.8
APR-39(V)2 Reserve	18	3.6																			18	3.6
AVR-2A Active Duty	24	4.0																			24	4.0
AVR-2A Reserve	18	2.0																			18	2.0
AAR-47	24	1.7																			24	1.7
ALE-47	24	1.1																			24	1.1
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1																				0.1
Training Equipment		*				21.1																21.1
Support Equipment		0.8																				0.8
ILS		0.1																				0.1
Other Support		0.6		0.9		0.8																2.3
Interim Contractor Support																						
Installation Cost	12	0.4	30	1.6																	42	2.0
Total Procurement		24.1		2.4		21.9																48.4

Notes:

1. Totals may not add due to rounding
2. A total of four (4) kits were procured and installed as part of validation/verification efforts under the install kits non-recurring line. One (1) reserve A/C install was performed with NGRE funds.

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: **HH-60H**MODIFICATION TITLE: Aircraft Survivability Equipment (ASE) (OSIP 26-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**ADMINISTRATIVE LEADTIME: N/A MonthsPRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (42) kits	12	0.4	30	1.6																	42	1.9
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	12	0.4	30	1.6																	42	1.9

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8	8	9	7	6												
Out	7	8	8	8	7												

	FY 2002				To Complete	TOTAL
	1	2	3	4		
In						38
Out						38

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: NVG HUD (OSIP 27-95)MODELS OF SYSTEMS AFFECTED: HH-60HTYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: The HH-60H Night Vision Goggles Heads Up Display (NVG HUD) upgrade provides flight and navigation information to be displayed to the flight crew through the Night Vision Goggles. The existing systems require substantial cockpit viewing by the flight crew. This change provides the flight crew with a heads up display of flight and navigation information reducing cockpit viewing and enhances the pilot's response time in the hostile environment. This change will bring the Active Navy HH-60Hs to the same configuration as the Reserve HH-60Hs. This requirement is reflected in ORD# 085-05-86. The HH-60H current inventory is 38. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL; 24 active Navy aircraft are being modified.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: NVG HUD is a joint service (Army/Navy) competition which was awarded to an AEL/CROSS SYSTEM/ELBIT Team. Installation of the NVG HUD upgrade was initiated under AVRADA Delivery Order 0079. The initial procurement of 18 NVG HUD suites for the Reserve HH-60H was conducted in 1992 with NGRE funding.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Active	24	1.5																			24	1.5
Reserve																						
Installation Kits N/R		0.8																				0.8
Installation Equipment																						
Active	24	0.5																			24	0.5
Reserve	18	0.3																			18	0.3
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1																				0.1
Training Equipment																						
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost	2	0.1	22	0.7																	24	0.8
Total Procurement		3.3		0.7																		4.0

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: HH-60H MODIFICATION TITLE: NVG HUD (OSIP 27-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Teams

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (24) kits	2	0.1	22	0.7																	24	0.8
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	2	0.1	22	0.7																	24	0.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001		
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
In	2	5	5	6	6											
Out	2	5	5	6	6											

	FY 2002				To Complete	TOTAL
	1	2	3	4		
In						24
Out						24

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: T700 Engine Improvement (OSIP 08-96)MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60HTYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: The Navy H-60 helicopter engine improvement modifications include the following safety and reliability improvements; auto ignition, which activates a time delay relay enabling ignition during an overspeed event and subsequent re-light; transient droop improvement (TDI) which minimizes NR droop in hot/heavy gross weight environment and suitable contingency power making increased power available at high gross weight. Current inventory: 38 HH-60H, 163 SH-60B and 76 SH-60F aircraft. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60B comprise of 2 NSH-60B and 1 additional SH-60F aircraft, reflects YSH-60F. All are systems are being modified per ORD#s SOR-12-18, 015-05-84 and 085-05-86.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The planned engine improvements are already developed and in production in Army Blackhawk helicopters. The Navy will conduct flight testing of the FY 1996 validation/verification period in order to verify the operation in the Naval Hawk application.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP3930	92	0.8			191	2.2															283	3.1
Installation Kits N/R		1.3																				1.3
Installation Equipment																						
DECU s	214	4.4	78	1.2	302	3.8															594	9.4
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.4				0.2		0.3														0.8
Training Equipment	14	0.4				0.1															14	0.5
Support Equipment		*																				*
ILS		0.5																				0.5
Other Support		0.4				0.3		0.2		0.2												1.1
Interim Contractor Support																						
Installation Cost					15	0.2	173	1.5	109	0.6											297	2.2
Total Procurement		8.2		1.2		6.8		1.9		0.7												18.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H

MODIFICATION TITLE: T700 Engine Improvements (OSIP 08-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Teams

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: Jun-99

FY 1999: Jul-99

FY 2000:

DELIVERY DATE: FY 1998: Jun-00

FY 1999: Nov-00

FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (106) kits					15	0.2	91	0.7													106	0.9
FY 1999 (191) kits							82	0.7	109	0.6											191	1.3
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					15	0.2	173	1.5	109	0.6											297	2.2

Installation Schedule

	FY 1998 & Prior	FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								3	12	30	51	53	39	29	27	27	26
Out								3	12	30	51	53	39	29	27	27	26

	FY 2002				To Complete	TOTAL
	1	2	3	4		
In						297
Out						297

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Armed Helo (OSIP 10-96)MODELS OF SYSTEMS AFFECTED: SH-60BTYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: Procures weapons kits and incorporate provisions for a weapons capability into the SH-60B helicopter. Provisions include capability for supporting the Hellfire missile, crew served GAU-16A machine gun and FLIR nose mount. Modification required due to increasing ASUW role of the SH-60B in the littoral environment. This modification provides enhanced target detection, designation and defensive and survival capabilities. The current SH-60B inventory is 163 SH-60B. Inventory comprise of 2 NSH-60B; 87 aircraft are being modified. The program also procures 60 Hellfire mission systems as ancillary equipment. ORD #Ser 377-88-94 applies.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The weapons capability for the SH-60B and HH-60H will utilize all Non-Development Items (NDI) equipments. A contract for the rapid deployment capability consisting of (8) aircraft was awarded in June 1996, with installations commencing in December 1996.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Provisions	8	4.7	15	6.9	13	8.0	43	22.4													79	42.0
Rapid Deployment	8	4.8																			8	4.8
Installation Kits N/R		21.8																				21.8
Installation Equipment																						
Rapid Deployment	8	1.2																			8	1.2
Hellfire Launcher/GAU-16A	4	0.8	13	5.5	16	3.9	19	3.0													52	13.2
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.5																				0.5
Training Equipment						30.2																30.2
Support Equipment		0.5				1.4																2.0
ILS		1.2		0.1																		1.3
Other Support		3.9		6.6		4.4		0.4														15.4
Interim Contractor Support																						
Installation Cost	10	0.7			4	0.4	73	5.8													87	6.9
Total Procurement		40.2		19.0		48.4		31.7														139.2

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: **SH-60B**MODIFICATION TITLE: Armed Helo (OSIP 10-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**ADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME 7 MonthsCONTRACT DATES: FY 1998: Jun-98FY 1999: Jul-99FY 2000: Oct-99DELIVERY DATE: FY 1998: Mar-99FY 1999: Feb-00FY 2000: May-00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (31) kits	10	0.7			4	0.5	17	1.4													31	2.6
FY 1999 (56) kits							56	4.4													56	4.4
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	10	0.7			4	0.5	73	5.8													87	7.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	10								4	15	13	28	17				
Out	2	6		2						14	18	21	24				

	FY 2002				To Complete	TOTAL
	1	2	3	4		
In						87
Out						87

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Helicopter Integrated Mechanical Diagnostic System (IMD) (OSIP 17-00)MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H, CH-60, SH-60RTYPE MODIFICATION: Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: Integrated Mechanical Diagnostic System (IMD) is a helicopter monitoring and diagnostics system that provides continous onboard monitoring and diagnostics of engine health, gearbox, drive train vibrations, oil debris, and rotor track & balance.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Revised Acquisition Strategy from lease concept to procurement; approved by PEO December 1999. IMD DT scheduled to start on SH-60B at Rotary Wing January 2000. DT scheduled to finish June 2000. LRIP decision scheduled for July 2000, based on sucessful DT. Current inventory: 38 HH-60H, 163 SH-60B and 76 SH-60F aircraft. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60B comprise of 2 NSH-60B and 1 additional SH-60F aircraft, reflects YSH-60F. "Total CH-60 aircraft will be 237. Lot I and II CH-60 prodction configuration is set prior to MS III decision on IMD, resulting in retrofit to 19 Lot I and II CH-60. Subsequent Lots of CH-60 will be equipped in production."

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
CH-60 Install Kits							11	2.2	4	0.8	4	0.8							19	3.8
Legacy A/C Install Kits					14	2.8	50	10.0	40	8.0	40	8.0	40	8.0	12	2.4			196	39.2
CH-60 N/R Engineering						1.0														1.0
Legacy A/C NR Engineering						3.5														3.5
Engineering Change Orders																				
Data						1.8														1.8
Training Equipment						2.2									14.8					17.0
Support Equipment						0.1														0.1
ILS						0.8									0.8					1.6
Other Support						2.8		1.6	1.5		1.5		2.6		2.1					12.1
I																				
Interim Contractor Support																				
Installation Cost					14	1.3	61	5.5	44	4.0	44	4.0	40	3.6	12	1.1			215	19.4
Total Procurement						16.2		19.3		14.3		14.3		14.2		21.1				99.4

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H, CH-60MODIFICATION TITLE: HELICOPTER INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM (IMDS) (OSIP 17-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod TeamsADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME 2 MonthsCONTRACT DATES: FY 2000: Aug-00FY 2001: Aug-00DELIVERY DATE: FY 2000: Nov-00FY 2001: Nov-00

(\$ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																				
FY 1999 () kits																				
FY 2000 (14) kits					14	1.3													14	1.3
FY 2001 (61) kits							61	5.5											61	5.5
FY 2002 (44) kits									44	4.0									44	4.0
FY 2003 (44) kits											44	4.0							44	4.0
FY 2004 (40) kits													40	3.6					40	7.6
FY 2005 (12) kits															12	1.1			12	1.1
To Complete () kits																				
TOTAL					14	1.3	61	5.5	44	4.0	44	4.0	40	3.6	12	1.1			215	19.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									14	15	16	15	15	11	11	11	11	13	11	10	10
Out										14	15	16	15	15	11	11	11	11	13	11	10

	FY 2004				To Complete	TOTAL
	1	2	3	4		
In	10	10	10	10	12	215
Out	10	10	10	10	22	215

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Sonar Improvement (OSIP 25-00)

MODELS OF SYSTEMS AFFECTED: SH-60F

TYPE MODIFICATION: Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: High failure rates of the AN/AQS-13F transmitter/battery assemblies call for an improvement in realibility. The purpose change to the AN/AQS-13F transducer is to 1) Replace 65 tranmitter assemblies with the improved IGBT version (as previously accomplished on 68 transmitters via LECP 12991), the 2) Add auto-disconnects to battery circuitry preventing battery drainage when power is removed. The battery auto-disconnect will be accomplished on 133 transducers. Current inventory: 76 SH-60F aircraft. Inventory comprise of 1 additional SH-60F aircraft, reflects YSH-60F.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits					198	4.3													198	4.3
Install Kits N/R						*														*
Installation Equipment N/R						0.3														0.3
Engineering Change Orders						*														*
Data																				
Training Equipment																				
Support Equipment																				
Training Equipment																				
ILS						*														*
Other Support						0.1														0.1
Installation Cost					198	0.3													198	0.3
Total Procurement						5.0														5.0

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

SH-60F

MODIFICATION TITLE: Sonar Improvement (QSIP 25-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Contractor Field Mod Teams

ADMINISTRATIVE LEADTIME:

3 mos

PRODUCTION LEADTIME:

2 Months

CONTRACT DATES:

FY 2000: Mar-00

FY 2001: Sep-00

DELIVERY DATE:

FY 2000: Jun-00

FY 2001: Nov-00

(\$ in Millions)

Cost:	Prior Years		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																		
FY 1999 () kits																		
FY 2000 (198) kits			198	0.3													198	0.3
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
FY 2004 () kits																		
FY 2005 () kits																		
To Complete () kits																		
TOTAL	0	0.0	198	0.3													198	0.3

Installation Schedule

	FY 1997 & Prior	FY 1998		FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							198	0	0	0	0	0	0	0	0	0	0	0	0
Out							198	0	0	0	0	0	0	0	0	0	0	0	0

	FY 2004				TOTAL
	1	2	3	4	
In	0	0	0	0	198
Out	0	0	0		198

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

H-60 ULTRA LOW MAINTENANCE BATTERY (OSIP 06-01)

MODELS OF SYSTEMS AFFECTED:

SH-60B, SH-60F, HH-60H

TYPE MODIFICATION:

Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: Initiative replaces the current battery for the H-60 weapons system with ULM Battery. The ULM Battery reduces the cost of ownership, by reducing maintenance requirement, reduces weight and reduces the risk of hazmat discharge. This equipment will be provided for the current inventory of 38 HH-60H, 163 SH-60B and 76 SH-60F aircraft. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60B comprise of 2 NSH-60B and 1 additional SH-60F aircraft, reflects YSH-60F. Installations will be accomplished at "O" level.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The ULM Battery is currently being used by the Coast Guard H-60 aircraft. This would provide the H-60 community with a common use item.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Retrofit Kits											289	1.1									289	1.1
Installation Kits N/R**								1	*												1	*
Installation Equipment																						
ULM Battery											270	0.3									270	0.3
Installation Equipment N/R																						
Engineering Change Orders																						
Data									0.1													0.1
Training Equipment									0.2													0.2
Support Equipment																						
ILS									0.3			0.1										0.4
Other Support									0.3			0.1										0.4
Interim Contractor Support																						
Installation Cost																						
Total Procurement									0.9		1.6											2.5

Notes:

1. Totals may not add due to rounding

** One ULM A-Kit procured as a test asset will be installed into an active aircraft.

2. Asterisk indicates amount less than \$50K

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

H-60 Heater Test Set (OSIP 07-01)

MODELS OF SYSTEMS AFFECTED:

HH-60H, SH-60B,SH-60F

TYPE MODIFICATION:

Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: This test set will be used to correct resistance deficiencies in the main rotor and tail rotor blade heater mats. The heating elements of the blade de-ice system tend to build up resistance because of infrequent system use. These resistance deficiencies are currently causing the squadron to Beyond Capability Maintenance (BCM) the Main Rotor Blades (MRB). The rotor system, is the affected aircraft system that would be improved as a result of this test set. This test set will be provided for the current inventory: 38 HH-60H, 163 SH-60B and 76 SH-60F aircraft. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60B comprise of 2 NSH-60B and 1 additional SH-60F aircraft, reflects YSH-60F. The test set will be installed at the "O" level.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Test Sets									14	0.1											14	0.1
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost																						
Total Procurement									14	0.1											14	0.1

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE:		February 2000			
APPROPRIATION/BUDGET ACTIVITY								P-1 ITEM NOMENCLATURE					
Aircraft Procurement, Navy/APN-5 Aircraft Modifications								H-1 Series Modifications					
Program Element for Code B Items:													
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total	
QTY		A										-	
COST (In Millions)	108.7	A	19.8	25.8	15.3	2.6	1.1	0.2	3.1	0.2	-	176.9	
This line item funds modifications to the AH-1W, HH-1N and UH-1N aircraft through FY 1996. There are 98 UH-1N's (81 active/17 reserve) and 30 active HH-1Ns for a total of 132. However, beginning in FY 1997 this line item funds only the HH-1N and UH-1N aircraft; therefore, no AH-1W information is provided herein. The UH-1N provides command and control and combat assault support under day/night and adverse weather conditions. Additional UH-1N missions include special operations support, controls/coordination/guidance of supporting fire and aeromedical evacuation. The overall goal of the modifications budgeted in FY2001 is to eliminate safety hazards, remedy obsolescence and maintain significant mission capability until the planned retirement date of 2020.													
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Complete	Total	
15-92	UH-1 COMNAV Block Upgrade	57.0	9.6	6.1	2.1							74.8	
31-92	UH-1 NTIS	51.7	2.3	8.0	8.0							70.1	
15-98	AN/APR-39A(V)2		-	1.1	0.3							1.4	
18-98	H-1N Safety Upgrades		4.9	7.8	4.8	2.6	0.1	0.2	0.1	0.2		20.8	
21-98	Internal Rescue Hoist		3.0	2.9								5.8	
-02	ASC-26 Upgrade					-	1.0		2.9			3.9	
		108.7	19.8	25.8	15.3	2.6	1.1	0.2	3.1	0.2		176.9	
RESERVE FUNDING INCLUDED IN TOTAL		3.0	1.7	2.3	0.5								
Asterisk indicates amounts less then \$50K Totals may not add due to rounding													

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: COMNAV BLOCK UPGRADE (OSIP 15-92)MODELS OF SYSTEMS AFFECTED: UH-1NTYPE MODIFICATION: UPGRADE

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 states that the U.S. Marine Corps (USMC) UH-1N helicopters require self-contained navigation and jam-proof over-the-horizon (OTH) VHF and UHF communications in order to successfully execute all weather, day/night ship launched Marine Expeditionary Unit (Special Operations Capable) MEU (SOC), assault support missions and command and control missions. The UH-1N COMNAV Block Upgrade installed by AFC#275 via ECP PN76R1 consists of the AN/APN-217(V) Doppler NAV, AN/ARN-153 TACAN, and MAGR GPS which provide precise navigation and position information and the AN/ARC-210 radio suite with HAVEQUICK/SINGARS which provides secure voice communications. An AN/ARC-210 radio installed with a satellite communications antenna provides secure voice OTH communications between the assault forces and the task force commander. The AN/APN-217(V) Doppler, the MAGR GPS and the AN/ARC-210 radios are integrated through the cockpit display navigation unit (CDNU) via a MIL-STD-1553B Data Bus. Additionally, AFC#281 is required to relocate the aircraft searchlight, remove the AN/ARN-89 ADF system, install circuit breaker panel and center pedestal extensions. The CDNU Operational Flight Program (OFP), NVG Heads Up Display (HUD) and ICU-800 will also be improved. The COMNAV Block Upgrade also requires that the UH-1N Computer Based Training (CBT) instructional material be revised and that Electronic classroom equipment be provided to fleet squadrons in order to be properly trained.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/APN-217(V) Doppler NAV, AN/ARN-153 TACAN, MAGR GPS system and Cockpit Display Navigation Unit (CDNU) have been individually qualified. The AN/ARC-210 radio Low Rate Initial Production Decision was approved 30 June 1992 and Full Rate Production Decision occurred in April 1994. COMNAV AFC 275 kit completed DT III in the second quarter FY 1995 and completed OT III in the second quarter FY 1996.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC-275 ECP# PN76R1	71	9.4	17	2.5	13	2.0															101	13.9
AFC-281 ECP# PN86	103	0.3																			103	0.3
Installation Kits N/R	4	6.4																			4	6.4
Installation Equipment		16.0		2.1		1.1																19.2
Installation Equipment N/R		1.5		0.8																		2.3
Engineering Change Orders							0.2															0.2
Data		0.4																				0.4
Training Equipment	4	4.7		0.1		0.1		0.1													4	4.8
Support Equipment		0.4																				0.4
ILS		0.9																				0.9
Other Support		11.2		2.7		1.4		0.8														16.0
Interim Contractor Support																						
Installation Cost	164	5.8	19	1.5	16	1.5	13	1.1													212	9.9
Total Procurement		57.0		9.6		6.1		2.1														74.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UH-1NMODIFICATION TITLE: COMNAV BLOCK UPGRADE (OSIP 15-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: CONTRACTOR FIELD MOD TEAM, AND ORGANIC MODADMINISTRATIVE LEADTIME: 3 MonthsPRODUCTION LEADTIME: 8 MonthsCONTRACT DATES: FY 1998: Jan-98 FY 1999: Jan-99 FY 2000: FY 2001: DELIVERY DATE: FY 1998: Sep-98 FY 1999: Sep-99 FY 2000: FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (199) kits	164	5.8	19	1.5	16	1.5															199	8.8
FY 1999 (13) kits							13	1.1													13	1.1
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	164	5.8	19	1.5	16	1.5	13	1.1													212	9.9

Note: Includes 4 NRE & 4 Trainer Kits.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	164	5	5	5	4	3	4	4	5	4	4	3	2												
Out	152	9	7	5	5	4	5	4	4	6	4	3	4												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										212
Out										212

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: UH-1N NAVIGATIONAL THERMAL IMAGING SYSTM (NTIS) (OSIP 31-92)MODELS OF SYSTEMS AFFECTED: UH-1NTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 states that the UH-1N requires a Navigational Thermal Imaging System (NTIS) to provide the U.S. Marine Corps with a night/day warfighting capability in the NOE/smoke/dust/haze environment. This capability reduces the safety risk by allowing the aircrew to see and avoid flight obstructions and locate targets that might not be visible with the naked eye or night vision goggles. The AN/AAQ-22A is a low cost, stabilized system which provides the required capability in the form of high quality real time imagery displayed into the UH-1N aircraft cockpit. The NTIS System is comprised of 5 components; Turret FLIR Unit (TFU), Central Electronics Unit (CEU), Hand Control Unit (HCU), Thermal Image Recorder (TIR), and the Video Display Unit (VDU). The NTIS is installed only in the UH-1N aircraft by AFC 278. The system also includes a Laser Range Finder (LRF) to determine the range to landmarks, targets, and tactical points of interest. Beginning FY97, the NTIS was upgraded from 1st generation to 3rd generation Forward Looking Infrared (FLIR) technology. This COTS modification to the current NTIS configuration will consist of a 3-5 micron focal plane array detector, an eye safe LRF and new optics incorporating three fields of view. The commercial name of this modification is STAR SAFIRE LRF. Additionally, the NTIS will be upgraded with a new Thermal Imaging Recorder (TIR) with mount and a Flat Panel Display replacement for the VDU due to a fire hazard. Investigation of additional modifications to the NTIS are also being investigated in order to add a COTS Laser Designator capability..

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NTIS is a commercial off-the-shelf (COTS) item. MIL-STD-810C testing is complete. DT-III testing was completed in the fourth quarter 1994 and FOT&E was completed in the second quarter FY 1996. Additional testing occurred during fourth quarter 1998 for the NTIS upgrade.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC 278 ECP EJH HO 30006	105	2.6																			105	2.6
AFC-334 TIR ECP#H-1-CP9-97R-1	105	0.1																			105	0.1
Installation Kits N/R		3.2		0.1																		3.3
Installation Equipment																						
NTIS System (GFE)	84	29.7																			84	29.7
TIR (GFE)	107	1.0																			107	1.0
NTIS Upgrade	20	6.9	4	1.7	21	7.0	20	7.0													65	22.6
Flat Panel Display					100	0.8															100	0.8
Installation Equipment N/R		0.6																				0.6
Engineering Change Orders						*		0.5														0.6
Data		0.3		0.1		*																0.4
Training Equipment	2	0.5		0.1				0.1													2	0.8
Support Equipment		1.1																				1.1
ILS		0.1		0.1				0.1														0.3
Other Support		2.7		0.2		0.2		0.3														3.4
Interim Contractor Support																						
Installation Cost	107	3.1																			107	3.1
Total Procurement		51.7		2.3		8.0		8.0														70.1

Notes:

1. Totals may not add due to rounding
2. No installation funding required after FY 1997 - NTIS upgrade will be performed at manufacturer as MOD of GFE
3. No installation funding required after FY 1997- AFC 334 TIR will be incorporated at organizational Level

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/APR-39A(V) 2 WARNING RECEIVER SYSTEM (OSIP 15-98)MODELS OF SYSTEMS AFFECTED: UH-1NTYPE MODIFICATION: SURVIVABILITY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 states the requirement for a UH-1N Radar Warning Receiver (RWR). The APR-39A(V)2 is a low-cost, light weight programmable RWR which provides warning of radar guided Surface-to-Air Missiles and AAA, as well as Air-to-Air threats to low/slow flying aircraft. Additionally, the RWR will serve as the Electronic Warfare (EW) data-bus controller and provides a centralized control and display for other components in the EW suite. The AN/APR-39A(V)2 system consists of five antennas, a control indicator, display unit receivers, and a processor. All equipment is installed into the UH-1Ns by AFC 240 part II via ECP # H1-PN72R1.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: All initial DT and OT flight testing is complete. AFC 240 kits were originally procured under OSIP 15-90. The AN/APR-39A(V)2 hardware kits have been in storage awaiting an improved software load. During FY00 all required hardware will be removed from storage and will be loaded with the latest software version prior to installation.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits						0.6																0.6
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data						*																*
Training Equipment						0.2																0.2
Support Equipment																						
ILS						*																*
Other Support						0.2																0.2
Interim Contractor Support																						
Installation Cost							86	0.3													86	0.3
Total Procurement						1.1		0.3														1.4

Notes:

1. Totals may not add due to rounding
2. Installations include 4 trainers.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UH-1NMODIFICATION TITLE: AN/APR-39A(V)2 WARNING RECEIVER SYSTEM (OSIP 15-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: CONTRACTOR FIELD MOD TEAMADMINISTRATIVE LEADTIME: N/A MonthsPRODUCTION LEADTIME: N/A MonthsCONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: DELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (86) kits					86	0.3															86	0.3
FY 2001 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					86	0.3															86	0.3

Note:

1. Installations include 4 trainers.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										22	22	22	20												
Out										22	22	22	22	20											

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										86
Out										86

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: H-1N SAFETY UPGRADES (18-98)MODELS OF SYSTEMS AFFECTED: HH-1N/UH-1NTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 requires that the following safety shortfalls be corrected. The UH/HH-1N helicopter fleet were designed in the 1960s, introduced in the 1970s and are projected to remain in the Department of Navy inventory until FY-2020. This program is designed to address safety issues, such as mishap casual factors associated with maintaining an older type model series aircraft. This safety upgrade program replaces the Tail Drive System (TDS). The existing TDS is subject to failure resulting in complete loss of tail rotor thrust. Since 1991, 44 malfunctions or failure have been reported on current TDS components. In the same time period, two Class A mishaps occurred as result of catastrophic failure of the hanger bearing assemblies in flight. These mishaps resulted two deaths, major and minor injuries in seven others and the destruction of two aircraft. NAWC Lakehurst projects one Class A mishap to occur every two to three years at the current flight usage rates in a safety assessment report published on 3 June 1996. A modification to the CH-8500 Vibration Analysis Support Equipment (VASE) will also be needed. Additionally, a COTS replacement Rotor Brake Quill (RBQ) assembly and Low Maintenance Battery (LMB) will be incorporated into all HH/UH/1N aircraft. Component failures due to an obsolete design pose a significant risk to all aircrew Included in this OSIP is the requirement to correct the safety deficiencies of the Defensive Armament System (DAS) mounts, M240 machine gun and GAU-17 machine gun.. Additionally, the overspeed Aural Alert Unit (AAU) will be modified. A COTS Improved Torque Sensor System (ITSS) will be added to provide a digital torque signal to the aircrew to improve low power margin situational awareness.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: These upgrades are proprietary, non-developmental items used in other BHTI produced military and FAA certified commercial helicopters. Prototype installation and flight testing completed in March 1999 at NAS Patuxent River, MD. Post flight analysis and report completed in September 1999.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP # BHTI-1710 (TDS)			55	2.1	49	3.1	27	1.9													131	7.1
ECP# HI-CP-24-99 Rotor Brake Quill									127	1.0											127	1.0
ECP# HI-CP-19-98 Aural Alert Unit					113	0.5															113	0.5
Improved Engine Torque Sensor							130	1.0													130	1.0
ECP# NAWCWD 97GG023R2 M240			210	0.1																	210	0.1
ECP# 98-002 GAU-17 Gun Ctrl Unit					79	0.3															79	0.3
ECP#98-0014 IDAS Mounts					110	0.7															110	0.7
Installation Kits N/R				1.1		*		0.1														1.2
Installation Equipment N/R																						
Engineering Change Orders				*																		0.0
Data				0.2		0.1		0.3		0.2												0.7
Training Equipment			1	0.2	1	0.6		0.4	2	0.2											4	1.3
Support Equipment				0.1		0.5																0.6
ILS				0.4		0.3		0.1		0.2												0.9
Other Support				0.8		1.8		0.8		0.8		0.1		0.2		0.1		0.2				4.8
Interim Contractor Support																						
Installation Cost							88	0.2	130	0.3	16	0.1									234	0.5
Total Procurement				4.9		7.8		4.8		2.6		0.1		0.2		0.1		0.2				20.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: HH-1N/UH-1NMODIFICATION TITLE: H-1N SAFETY UPGRADES (OSIP 18-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: CONTRACTOR FIELD TEAM AND ORGANIC MOD TEAMADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 6 MonthsCONTRACT DATES: FY 1998: Jun-99 FY 1999: Jun-99 FY 2000: Nov-99 FY 2001: _____DELIVERY DATE: FY 1998: Mar-00 FY 1999: Mar-00 FY 2000: Jul-00 FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 (55) kits							25	0.1	30	0.1											55	0.1
FY 1999 (152) kits							63	0.1	89	0.1											152	0.2
FY 2000 (27) kits									11	0.1	16	0.1									27	0.2
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							88	0.2	130	0.3	16	0.1									234	0.5

Installation Schedule reflects 103 AAUs (10 units are being procured as Interim Support and not being installed) and 131 TDS.

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In												10	78	40	40	25	25	16							
Out												83	45	40	40	25	25	16							

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										234
Out										234

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: H-1 INTERNAL RESCUE HOIST (21-98)MODELS OF SYSTEMS AFFECTED: HH-1N/UH-1NTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 states the requirement for an Internal Rescue Hoist. The current HH/UH-1N hoist was designed in the 1960s and introduced in the 1970s. The procurement of a new HH/UH-1N rescue hoist will be GFE to the UH-1Y (4BN) upgrade and is projected to remain in the inventory until FY2020. There have been 16 hoist related failure/incidents in the past 13 years. NAWC Lakehurst safety assessment of the HH/UH-1N internal rescue hoist determined that we can expect at least one hoist failure per year, with possible catastrophic results, and strongly recommends that a modern, reliable, internal rescue hoist be procured. A new internal rescue hoist will provide a state-of-the-art rescue hoist that will increase search and rescue effectiveness well into the next decade.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This upgrade acquires a form, fit and function interchangeable of the existing internal rescue hoist as a non-development item. This procurement is through competitive award based on "best value" to the government. Critical factors included Performance, Life Cycle Support, Program Management, Price and Past Performance. The Request For Proposal (RFP) was announced in Apr 99. The the new Rescue Hoist contract was awarded in July 99.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits																						
Installation Kits N/R				0.1		0.2																0.2
Installation Equipment																						
Installation Equipment			49	2.6	26	1.4															75	3.9
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.1		0.1																0.2
Training Equipment				*		0.6																0.6
Support Equipment				*																		0.0
ILS				0.1		0.3																0.4
Other Support				0.1		0.3																0.4
Interim Contractor Support																						
Installation Cost																						
Total Procurement				3.0		2.9															75	5.8

Notes:

1. Totals may not add due to rounding
2. No Installation funding required. Rescue Hoist will be incorporated at the organizational level.

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40										DATE: FEBRUARY 2000																																																																																																										
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE H-3 Series Modifications																																																																																																												
Program Element for Code B Items:								Other Related Program Elements																																																																																																												
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																								
QUANTITY																																																																																																																				
COST (In Millions)	5.9		3.3	*	*	0.1	4.4	2.5	2.1	2.3	7.5	28.1																																																																																																								
<p>This line item funds modifications to an inventory of 64 H-3 aircraft. The H-3 is a twin-engine, single main rotor helicopter utilized in anti-submarine warfare, utility, and search and rescue missions. The overall goal of the modifications budgeted in FY 2001 is to replace obsolete systems and equipment, to enhance mission performance, and to ensure supportability until the planned retirement of the H-3 aircraft in 2010. The specific modifications budgeted and programmed are:</p> <p style="text-align: center;">(TOA, \$ in Millions)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">OSIP No.</th> <th style="text-align: left;">Description</th> <th>Prior Years</th> <th>FY 1998</th> <th>FY 1999</th> <th>FY 2000</th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> <th>FY 2004</th> <th>FY 2005</th> <th>To Complete</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>14-93</td> <td>UH-3H GPS</td> <td>4.1</td> <td>0.6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4.8</td> </tr> <tr> <td>36-95</td> <td>EXECUTIVE TRANSPORT CONVERSION</td> <td>1.8</td> <td>2.6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>7.5</td> <td>11.9</td> </tr> <tr> <td>03-99</td> <td>AN/ASN-162 C/AHRS</td> <td></td> <td></td> <td>*</td> <td>*</td> <td>0.1</td> <td>3.2</td> <td>2.5</td> <td></td> <td></td> <td></td> <td>5.9</td> </tr> <tr> <td>-02</td> <td>COMM/NAV UPGRADE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1.1</td> <td></td> <td></td> <td></td> <td></td> <td>1.1</td> </tr> <tr> <td>-04</td> <td>COCKPIT MODIFICATIONS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2.1</td> <td>2.3</td> <td></td> <td>4.4</td> </tr> <tr> <td colspan="2">TOTAL</td> <td>5.9</td> <td>3.3</td> <td>*</td> <td>*</td> <td>0.1</td> <td>4.4</td> <td>2.5</td> <td>2.1</td> <td>2.3</td> <td>7.5</td> <td>28.1</td> </tr> <tr> <td colspan="2">Funding for Reserve Forces</td> <td>1.6</td> <td>0.1</td> <td></td> <td>*</td> <td>*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1.8</td> </tr> </tbody> </table> <p>* Indicates funding less than 0.051 Million.</p>													OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total	14-93	UH-3H GPS	4.1	0.6									4.8	36-95	EXECUTIVE TRANSPORT CONVERSION	1.8	2.6								7.5	11.9	03-99	AN/ASN-162 C/AHRS			*	*	0.1	3.2	2.5				5.9	-02	COMM/NAV UPGRADE						1.1					1.1	-04	COCKPIT MODIFICATIONS								2.1	2.3		4.4	TOTAL		5.9	3.3	*	*	0.1	4.4	2.5	2.1	2.3	7.5	28.1	Funding for Reserve Forces		1.6	0.1		*	*						1.8
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																								
14-93	UH-3H GPS	4.1	0.6									4.8																																																																																																								
36-95	EXECUTIVE TRANSPORT CONVERSION	1.8	2.6								7.5	11.9																																																																																																								
03-99	AN/ASN-162 C/AHRS			*	*	0.1	3.2	2.5				5.9																																																																																																								
-02	COMM/NAV UPGRADE						1.1					1.1																																																																																																								
-04	COCKPIT MODIFICATIONS								2.1	2.3		4.4																																																																																																								
TOTAL		5.9	3.3	*	*	0.1	4.4	2.5	2.1	2.3	7.5	28.1																																																																																																								
Funding for Reserve Forces		1.6	0.1		*	*						1.8																																																																																																								

MODIFICATION TITLE: UH-3H GPS (OSIP 14-93)MODELS OF SYSTEMS AFFECTED: UH-3HTYPE MODIFICATION: Reliability

DESCRIPTION/JUSTIFICATION: Installation of the Miniaturized Airborne GPS Receiver (MAGR) system in the UH-3H Aircraft will provide independent 24 hour all weather Navigation coverage. Integrating the MAGR into the H-3 AN/ASN-123 Tactical Navigational Computer (TACNAV) allows for back-up Navigational Coverage and Doppler aiding. This will greatly enhance the UH-3H navigation and mission capabilities. This OSIP was originated as an Engineering Change Proposal (ECP) modification prior to initiation of DOD 5000. As such, there was no separate Mission Needs Statement (MNS) or Operational Requirements Document (ORD) needed or generated. Of the 64 aircraft in the H-3 inventory, 52 will receive the upgrade immediately, 7 SH-3H's and 5 VH-3A's will not receive the upgrade.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Developmental (DT III) testing and Operational (OT III) testing, funded by PMW-187 under Common Avionics GPS OSIP 71-88, are complete. There are three major kits provided under this OSIP: Airframe modification kit (provisions only) and two AN/ASN-123 TACNAV modification kits (Hardware/Software). The Global Positioning System User Equipment (i.e. MAGR, Mission Data Loader (MDL), antennas, mounts) will be furnished as GFE by SPAWARSSYSCOM PMW/PMA-187 and is funded under OSIP 71-88.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
Installation Kits																				
Installation Kits																				
MAGR Kit	60	0.9																	60	0.9
Installation Kits N/R		0.7																		0.7
Installation Equipment																				
TACNAV Equip	60	0.9																	60	0.9
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.1																		0.1
Training Equipment		0.5																		0.5
Support Equipment																				
ILS		*																		*
Other Support		0.1																		0.1
Interim Contractor Support																				
Installation Cost	80	0.8	32	0.6															112	1.5
Total Procurement		4.1		0.6																4.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Discrepancy of 8 installs is due to incompatibility of previously purchased units that will not be installed.

MODELS OF SYSTEMS AFFECTED: UH-3H MODIFICATION TITLE: UH-3H GLOBAL POSITIONING SYSTEM (OSIP 14-93)

INSTALLATION INFORMATION: **DEPOT LEVEL**

METHOD OF IMPLEMENTATION: CONTRACTOR FIELD MODIFICATION TEAM

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000: FY 2001:

DELIVERY DATE: FY 1998: FY 1999: FY 2000: FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (112) kits	80	0.9	32	0.6															112	1.6
FY 1999 () kits																				
FY 2000 () kits																				
FY 2001 () kits																				
FY 2002 () kits																				
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
To Complete () kits																				
TOTAL	80	0.9	32	0.6															112	1.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	80	6	12	12	2																
Out	77	9	12	12	2																

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In														112
Out														112

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

UH-3H EXECUTIVE TRANSPORT CONVERSION (OSIP 36-95)

MODELS OF SYSTEMS AFFECTED:

UH-3H

TYPE MODIFICATION:

Reliability

DESCRIPTION/JUSTIFICATION: VH-3A aircraft are currently used to provide CINCLANTFLT with Executive Transport mission support. However, these aircraft reached their airframe service life limit in FY 1998 while critical systems and components are becoming increasingly unsupportable due to obsolescence and uniqueness compared to the rest of the H-3 Fleet. This program will convert four (4) logistically supportable UH-3H aircraft for CINCLANTFLT Executive Transport missions. The modification includes addition of an Auxiliary Power Unit, Environmental Control System, and interior passenger accommodations. OPNAV conveyed this requirement in March 1995 via ORD # 404-88-95.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Design and installation of components and systems common to other U.S. Government helicopters will be utilized to the maximum extent possible to minimize cost and the amount of testing and qualification required.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC Kit																						
Installation Kits N/R **		1.5	1	2.4														3 ***	5.5	4	9.3	
Installation Equipment																						
Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																			0.5		0.5	
Training Equipment																						
Support Equipment																						
ILS		0.1																	0.3		0.4	
Other Support		0.2		0.3															1.3		1.8	
Interim Contractor Support																						
Installation Costs																						
Total Procurement		1.8	1	2.6															7.5		11.9	

Notes: 1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K.

** 3. 1 Prototype = GFE (Auxiliary Power Unit, Environmental Control System, interior passenger accommodations) and structures.

*** 4. 1 Prototype + 1 Validation + 1 Verification.

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/ASN-162 COMPASS/ATTITUDE HEADING REFERENCE SYSTEM (OSIP 03-99)MODELS OF SYSTEMS AFFECTED: UH-3HTYPE MODIFICATION: Reliability

DESCRIPTION/JUSTIFICATION: The C/AHRS will replace the unsupportable A24G-39 Attitude Heading Reference System (AHRS) and 1080Y Vertical Gyro. C/AHRS provides improved state-of-the-art navigation capability and while coupled with GPS serves as a back-up navigational aid. Upgrade consists of the AN/ASN-162 C/AHRS at installation equipment and an airframe change kit (AFC). All U.S. Navy active and reserve forces UH-3H aircraft will receive this upgrade.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The new AN/ASN-162 C/AHRS will be in production and Integration through FY02.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC Kit											25	0.2	27	0.2							52	0.3
Installation Kits N/R						*		*	0.1		*											0.2
Installation Equipment																						
AHRS Equip											25	2.4	27	2.2							52	4.6
Installation Equipment N/R																						
Engineering Change Orders																						
Data											0.1											0.1
Training Equipment											0.1											0.1
Support Equipment											0.1											0.1
ILS											0.1											0.1
Other Support											0.2											0.2
Interim Contractor Support																						
Installation Costs											25	0.2	27	0.2							52	0.4
Total Procurement						*		*	0.1		3.2		2.5									5.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UH-3H MODIFICATION TITLE: AN/ASN-162 COMPASS/ATTITUDE HEADING REFERENCE SYSTEM (OSIP 03-99)

INSTALLATION INFORMATION: DEPOT LEVEL

METHOD OF IMPLEMENTATION: CONTRACTOR FIELD MODIFICATION TEAM

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2002: Nov-01 FY 2003: Oct-02 FY 2004: FY 2005:

DELIVERY DATE: FY 2002: May-02 FY 2003: Apr-03 FY 2004: FY 2005:

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 (25) kits											25	0.2									25	0.2
FY 2003 (27) kits													27	0.2							27	0.2
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL											25	0.2	27	0.2							52	0.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																				10	15	9	9	9	
Out																				10	15	9	9	9	

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										52
Out										52

CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE EP-3 Series Modifications					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY												
COST (In Millions)	84.7		5.5	7.2	61.3	25.8	27.3	88.2	34.0	35.9	198.7	534.9
<p>This line item funds modifications to the EP-3E aircraft. The EP-3E is a land based, long range aircraft, with electronic intercept devices for detection and tracking of enemy RADARs and radios. The overall goal of the modifications budgeted in FY2001 is to improve operational capability and aircrew productivity by expanding the ESM frequency coverage, applying state-of-the-art signal exploitation/processing/display techniques, expanding direction finding (DF) frequency coverage, and expanding special signal processing capability.</p> <p>Research and Development is funded with National Security Agency (NSA) Defense Cryptologic Program (DCP) funds and ASDC4I Defense Airborne Reconnaissance Program (DARP). DCP R&D funds the integration of Non-Developmental Items (NDI) under the Navy's Airborne Sensor System Improvement line. The NSA line for Navy Airborne Sensor System improvement funds sensor improvements with application to the EP-3E. DCP R&D PE: 0305885G refers. DARP R&D funds are responsible for the development and acquisition of EP-3E sensors, data links, data relays, and ground stations to achieve and maintain interoperability with Defense-wide airborne reconnaissance assets. Active PAA inventory is 11. EP-3 required inventory is 12. FY01 provides funds for the Joint Sigint Avionics Family (JSAF) Modification Program (JMOD). The EP-3E has an average service life of 29.5 years and the first EP-3E will reach end of service in 2004.</p>												
(TOA, \$ in Millions)												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
14-95	EP-3 Sensor Improvement	81.1	4.8	4.5	39.3	0.5						118.4
02-96	Common Impr. (AN/ARC-187)	3.6	0.7									4.3
17-99	EP-3 GPS Upgrade			2.7								2.8
26-00	Quick Reaction Cabability				21.9							
01-01	JSAF Modification (JMOD)					25.3	27.3	88.2	34.0	35.9	198.7	409.4
TOTAL		84.7	5.5	7.2	61.3	25.8	27.3	88.2	34.0	35.9	198.7	534.9
Note: Totals may not add due to rounding.												

CLASSIFICATION:

DD Form 2454, JUN 86

UNCLASSIFIED

Exhibit P-3a	INDIVIDUAL MODIFICATION	
MODIFICATION TITLE: <u>EP-3 Sensor System Improvement (OSIP 14-95)</u>		
MODELS OF SYSTEM AFFECTED: <u>EP-3E</u>	TYPE MODIFICATION: <u>Operational Improvement / Modernization</u>	
DESCRIPTION/JUSTIFICATION:		
<p>This Sensor System Improvement Program (SSIP) responds directly to Operational Requirement (OR) #057-095-87. The program procures, integrates, and installs new capabilities into the EP-3 Electronic Warfare Support Measures (ESM) weapon system to cope with the increasingly complex and dense threat environment. The required improvements in productivity will be achieved by applying state-of-the-art signal exploitation/processing/display technique, and expanding Program signal processing capability. Tactical communications connectivity improvements include TRE Related Applications (TRAP), Tactical Digital Information Exchange System-B (TADIXS-B), Tactical Digital Information Link-A and -J (TADIL-A and -J), Tactical Information Broadcast Services (TIBS), Tactical Reconnaissance Information Exchange System (TRIXS), USN/USAF Advisory Support Network (ASN) Intelnet , DAMA-capable radios, and an upgrade to the OE-320 antenna suite. Integration and testing in the EP-3 Integrated Test Facility (ITF) prior to installation in the first production aircraft ensures integrated system functional integrity. The SSIP will provide the hardware and software essential for timely situational analysis and reporting to the fleet tactical commands. LESPA requirement includes NRE for qualifying LESPA parachutes in both EP-3E and Special Project Aircraft. Procurement of parachutes was limited to the EP-3E requirement in this OSIP. Enhanced signal exploitation/processing is achieved by Low Probability of Intercept/Specific Emitter Identification (LPI/SEI).</p> <p>Operational Requirements Document (ORD) 057-095-87 and CAF-002-88 apply. FY2000 funding responds to the VQ Fleet requirements to restore the force level to the Primary Aircraft Authorization (PAA) of twelve aircraft following the Class A mishap of September 1997. A preserved P-3C will be converted to an EP-3E configuration in FY2000.</p> <p>This OSIP addresses 12 aircraft. Nine of the eleven EP-3E aircraft service lives end during FY2004 through FY2008. SLAP/SLEP is planned for FY2002 to extend service life of the aircraft to FY2015 and beyond.</p>		
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:		
<p>Initial testing at the Integrated Test Facility (ITF) was completed in the 2nd quarter of FY95. Based on this testing and an early operational assessment by COMOPTEVFOR, PEO(A) approved the production procurement of the first two system installs of SSIP Phase I . Production approval was based on follow-on qualification testing at the ITF and a COMOPTEVFOR operational assessment completed in the 2nd quarter FY96. DT was completed 4th quarter FY99 with OT scheduled for 2nd quarter FY00. Fleet introduction expected 2nd quarter FY00. An LPI/SEI OT will be conducted 2nd quarter FY01.</p>		
Exhibit P-3a		

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)

MODELS OF SYSTEM AFFECTED: EP-3E

TYPE MODIFICATION: Operational Improvement / Modernization

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
SSIP	12	5.4																			12	5.4
Replacement A/C							1	6.8													1	6.8
LESPA	12	1.1																			12	1.1
OE-320					6	.1	6	.1													12	.3
TADIL-J (Link-16)							12	1.2													12	1.2
LPI/SEI							12	1.0													12	1.0
Installation Kits N/R		2.3				.8		1.1														4.2
Installation Equipment																						
Storyteller	10	11.1																			10	11.1
Story Book	10	14.3																			10	14.3
Story Classic	10	11.7																			10	11.7
IP-1159 Replacement	10	5.0																			10	5.0
LESPA	12	1.0																			12	1.0
Auto Signal Recognition					12	.5															12	.5
OE-320 Upgrade					6	.9	6	.9													12	1.8
TADIL-J (Link-16)							12	5.6													12	5.6
HBP Equipment						1.2																1.2
LPI/SEI							12	8.7													12	8.7
Installation Equipment N/R																						
Engineering Change Orders																						
Data		3.8		.7		.6		2.0														7.1
Training Equipment		1.0						.5														1.5
Support Equipment		.7						.1														.8
ILS		5.4				.3		.4														6.1
Other Support		7.2		4.1				2.9														14.3
Interim Contractor Support																						
Installation Cost	12	11.0			18	.2	19	8.0	12	.5											61	19.7
TOTAL PROCUREMENT	76	81.1		4.8	24	4.5	61	39.3		.5											161	130.3

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)

INSTALLATION INFORMATION: ASR/OE-320/TADIL-J (Link-16)/LESPA

METHOD OF IMPLEMENTATION: Commercial Contractor Depot Installation

ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1998: FY 1999: 11/98 FY 2000: 11/99

DELIVERY DATE: FY 1998: FY 1999: 9/99 FY 2000: 9/00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (12) kits					* 12																12	
FY 1999 (18)					** 18	.2															18	.2
FY 2000 (18)							** 6	.1	*** 12	.5											18	.6
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					30	.2	6	.1	12	.5											48	.8

* "O" Level installation (LESPA).

** Reflects continual upgrade of previously procured aircraft with OE-320 antenna. OE-320 modifications will be accomplished at Commercial depot. OE-320 and Auto Signal Recognition (ASR) modification will be accomplished by Field Mod Team in FY99 & FY00.

*** Link-16 installation.

Installation Schedule

	FY 1997 & PRIOR	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									18			3	3		6	6									
Out									18			3	3		6	6									

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										36
Out										36

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)

INSTALLATION INFORMATION: Replacement Aircraft

METHOD OF IMPLEMENTATION: Commercial Contractor Installation

ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000: 6/00

DELIVERY DATE: FY 1998: FY 1999: FY 2000: 6/02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 ()																						
FY 2000 (1)							1	6.7													1	6.7
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							1	6.7													1	6.7

Installation Schedule

	FY 1997 & PRIOR	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In												1													
Out																			1						

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										1
Out										1

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)
SSIP

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Contractor Installation

ADMINISTRATIVE LEADTIME: _____ Months PRODUCTION LEADTIME: _____ Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (12) kits	12	11.0																			12	11.0
FY 1999 ()																						
FY 2000 ()																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	12	11.0																			12	11.0

Installation Schedule

	FY 1997 & PRIOR	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2			1	1						1	1	1	1	1	1	1	1							
Out	1			1	1	1							1	1		1	1	1	1	2					

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										12
Out										12

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)
LPI/SEI

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Contractor InstallationADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 18 MonthsCONTRACT DATES: FY 1998: FY 1999: FY 2000: 5/00 FY 2001: DELIVERY DATE: FY 1998: FY 1999: FY 2000: 11/01 FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 ()																						
FY 2000 (12)							12	1.2													12	1.2
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							12	1.2													12	1.2

Installation Schedule

	FY 1997 & PRIOR	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													12												
Out																		6	6						

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										12
Out										12

INDIVIDUAL MODIFICATION

Exhibit P-3a

MODIFICATION TITLE: EP-3E Common Improvement Program (OSIP 02-96)MODELS OF SYSTEM AFFECTED: EP-3ETYPE MODIFICATION: Operational Improvement / Obsolescence

DESCRIPTION/JUSTIFICATION:

The EP-3E has an operational requirement for reliable UHF communications having anti-jam capabilities with multi-service and allied secure UHF communications systems. It is authorized by JCS Inst. CJCS 6251.01 of 31 July 96. The current UHF radio (AN/ARC-156) suffers from serious reliability and obsolescence problems, and lacks the intermodulation protection required for proper operation in today's operational environment. The AN/ARC-187 UHF radio to be installed is a derivative of the AN/ARC-164 which is presently utilized by the Air Force and would correct the above mentioned deficiencies. The radio is common with the P-3C and S-3B aircraft and this commonality will significantly reduce logistic support requirements. Two AN/ARC-187 UHF transceivers will replace three AN/ARC-156 radios in 12 EP-3E's. Installation is provided in ECP #CTAS 96-01.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This is a non-developmental item. A production contract for ARC-187 (GOTS) Radio Systems was awarded in the fourth quarter of FY 1996. The EP-3E option was awarded in the third quarter of FY97. TEMPEST and EMI testing scheduled in conjunction with the Sensor System Improvement Program began in 4th quarter FY98. Aircraft deliveries began in 4th quarter of FY 98 and will conclude in 3rd quarter FY02.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ARC-187	9	.2	3	.1																	12	.3
Installation Kits N/R		.7																				.7
Installation Equipment																						
HD-1166/ARC-187	9	1.1	3	.4																	12	1.5
HQ-CRYPTO Fill Ports			12	*																	12	*
Installation Equipment N/R																						
Engineering Change Orders																						
Data		*																				*
Training Equipment																						
Support Equipment																						
Testing		.3		.1																		.3
ILS		.4																				.4
Other Support		.6		.2																		.8
Interim Contractor Support																						
Installation Cost	12	.4																			12	.4
TOTAL PROCUREMENT	18	3.6	18	.7																	36	4.3

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3EMODIFICATION TITLE: EP-3E Common Improvement Program (OSIP 02-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Team ModADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 8 MonthsCONTRACT DATES: FY 1998: 12/97 FY 1999: _____ FY 2000: _____DELIVERY DATE: FY 1998: 8/98 FY 1999: _____ FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (12) kits	12	.4																			12	.4
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	12	.4																			12	.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2			1	1						1		2	1	1	1	1	1							
Out	1			1	1	1							1	1		1	1	1	1	2					

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										12
Out										12

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: EP-3 Global Positioning System Inertial Guidance System (OSIP 17-99)MODELS OF SYSTEM AFFECTED: EP-3ETYPE MODIFICATION: Operational Improvement / Safety

DESCRIPTION/JUSTIFICATION:

The EP-3E has an operational requirement for a Global Positioning System (GPS) Integration Guidance (GIG) upgrade to the current GPS system (ARN-151) to comply with the International Civil Aeronautics organization (ICAO) standards. The Operational Requirements Document (ORD) that applies to this effort is CAPSTONE ORD CAF-002-88.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The procurement of this upgrade began FY 1999 and will be completed by mid-FY2000. Aircraft deliveries began in the second quarter of FY 1999 and will conclude in the second quarter FY 2000.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits					12	.6															12	.6
Installation Kits N/R						.3																.3
Installation Equipment					12	.9															12	.9
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment						.2																.2
Support Equipment																						
Testing																						
ILS						.3																.3
Other Support						*																*
Interim Contractor Support																						
Installation Cost					12	.5															12	.5
TOTAL PROCUREMENT					24	2.7															24	2.7

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3EMODIFICATION TITLE: EP-3 Global Positioning System Inertial Guidance System (OSIP 17-99) GPS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod TeamADMINISTRATIVE LEADTIME: 3 MonthsPRODUCTION LEADTIME: 3 MonthsCONTRACT DATES: FY 1998: _____ FY 1999: 3/99 FY 2000: _____DELIVERY DATE: FY 1998: _____ FY 1999: 6/99 FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (12) kits					12	.5															12	.5
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					12	.5															12	.5

Installation Schedule

	FY 1997 & PRIOR	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								6	6																
Out								5	6	1															

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										12
Out										12

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE EP-3 Quick Response Capability (OSIP 26-00)MODELS OF SYSTEM AFFECTED: EP-3ETYPE MODIFICATION Operational Improvement / Modernization

DESCRIPTION/JUSTIFICATION:

The EP-3E program responds directly to Operational Requirement (OR) #057-095-87. This OSIP provides the hardware and software essential for timely situational analysis and reporting to the fleet tactical commands. The program procures, integrates, and installs new capabilities into the EP-3 Electronic Warfare Support Measures (ESM) weapon system to cope with the increasingly complex and dense threat environment. These improvements in productivity will be achieved by applying state-of-the-art signal exploitation/processing/display techniques with expanding program signal processing and communication capabilities.

Operational Requirements Document (ORD) 057-095-87 and CAF-002-88 apply.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

One National Security Agency (NSA) asset has been installed on an ARIES II EP-3E aircraft as a prototype. Another R&D funded unit has been installed on the High Band Prototype (HBP) aircraft. Twelve more with improved technology will be procured. Installations will be conducted by a contractor field mod team.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits							12	2.6													12	2.6
Installation Kits N/R								1.5														1.5
Installation Equipment							12	14.5													12	14.5
Installation Equipment N/R																						
Engineering Change Orders																						
Data								.4														.4
Training Equipment								.3														.3
Support Equipment																						
ILS																						
Other Support								1.7														1.7
Interim Contractor Support																						
Installation Cost							12	1.0														1.0
TOTAL PROCUREMENT							12	21.9													12	21.9

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E MODIFICATION TITLE: EP-3 Quick Response Capability (OSIP 26-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Team Mod

ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: 7/00 FY 2001: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: 7/01 FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (12) kits							12	1.0													12	1.0
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							12	1.0													12	1.0

Installation Schedule

	FY 1997 & PRIOR	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																6	6								
Out																6	6								

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										12
Out										12

Exhibit P-3a		INDIVIDUAL MODIFICATION																				
MODIFICATION TITLE EP-3E Joint SIGINT Avionics Family (JSAF) Modification Program (JMOD) (OSIP 01-01)																						
MODELS OF SYSTEM AFFECTED: EP-3E										TYPE MODIFICATION: Operational Improvement / Modernization												
DESCRIPTION/JUSTIFICATION																						
<p>The EP-3E JSAF Modification (JMOD) Program upgrades the capabilities of the Sensor System Improvement Program (SSIP) configuration of the EP-3E and is directly responsive to Operational Requirement (OR) #057-095-87 and the CAPSTONE ORD (CAF-002-88). This program updates the EP-3E infrastructure (MOD 1) to accommodate the Joint Airborne SIGINT Architecture (JASA) compliant Low Band Sub-system (LBSS) which improves processing capability (MOD 2). The addition of the Common Data link (CDL) allows EP-3E to serve as a network-centric airborne SIGINT collection element capable of sharing data with ground and ship-based operators (MOD 2). MOD 3, precision targeting, will provide enhanced sensor capability resulting from new and/or modified sensors. The Joint Airborne SIGINT Program Office, Wright Patterson AFB, Dayton OH is developing and will provide the LBSS. This OSIP addresses the current EP-3E aircraft allowance of 12 aircraft which will undergo a series of three block modifications via an evolutionary acquisition process. This OSIP addresses 12 aircraft. Nine of the twelve EP-3E aircraft service lives end during FY04 through FY08. SLAP/SLEP is planned for FY02 to extend service life of the aircraft to FY15 and beyond.</p> <p>The block modification definitions are (a) MOD 1 (Infrastructure) includes racks, cabling, LAN, computer hardware and software. MOD 1 will reduce weight, accommodate LBSS boxes, enable use of LBSS output and increase throughput of information (b) MOD 2 (LBSS) incorporates the LBSS boxes and improved data links and (c) MOD 3 (Precision Targeting) includes a passive optical system and SAR radar. A Block Mod 1 to 2 adds the LBSS to aircraft that already has infrastructure. A Block Mod 1 to 3 adds the LBSS and Precision Targeting to aircraft that has infrastructure. A Block 2 to 3 adds the Precision Targeting to aircraft that already has infrastructure and LBSS. In FY03 a pipeline aircraft will be procured with A and B kits in a JMOD configuration</p>																						
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:																						
<p>RDT&E funded development commenced in FY-97 with non-recurring engineering for development and integration of a prototype kit / install kit to be installed into an SSIP configured EP-3E during the 4th quarter FY-00. An LRIP of two MOD 1 systems is planned for late 2nd quarter FY01. MOD 1 MSIII production approval is planned for 2nd quarter FY02. MOD 2 and MOD 3 production decisions are scheduled for 2nd quarter FY03 and 2nd quarter FY07 respectively. Production deliveries complete in FY11. The contract for a pipeline aircraft will be awarded early 2nd quarter FY03 with delivery in 2nd quarter FY05.</p>																						
FINANCIAL PLAN (TOA, \$ in Millions):																						
	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E (H2694)							3.0		6.9		7.8		8.7		17.9		22.7					64.1
PROCUREMENT																						
Installation Kits*																						
BLOCK MOD 1								2	2.4	2	2.4	2	2.4	2	2.4						8	9.6
BLOCK MOD 2												1	1.8	1	1.8	1	1.8				3	5.4
BLOCK MOD 1 to 2																1	1.0	3	3.0	4	4.0	
BLOCK MOD 1 to 3																		4	7.8	4	7.8	
BLOCK MOD 2 to 3																		7	9.4	7	9.4	
Pipeline Aircraft												1	16.0								1	16.0
Installation Kits N/R									5.3		4.0		13.0				5.6		7.1			35.0
Installation Equipment*																						
BLOCK MOD 1								2	8.0	2	8.0	2	8.0	2	8.0						8	31.8
BLOCK MOD 2												1	10.9	1	10.9	1	10.9				3	32.8
BLOCK MOD 1 to 2																1	7.0	3	20.9	4	27.8	
BLOCK MOD 1 to 3																		4	47.8	4	47.8	
BLOCK MOD 2 to 3																		7	35.0	7	35.0	
Pipeline Aircraft												1	12.0								1	12.0
Installation Equipment N/R													4.3									4.3
Engineering Change Orders																						
Data									4.4		4.0		2.5		1.7					11.3		23.9
Training Equipment									.8		.5									1.4		2.7
Support Equipment									.7		.2		.7							1.2		2.7
ILS									1.7		3.3		.7		1.1		1.1			5.3		13.2
Other Support									2.2		1.9		6.4		3.0		3.5			24.2		41.2
Interim Contractor Support																						
Installation Cost											2	3.0	3	9.5	3	5.1	3	5.1	16	24.3	27	47.0
TOTAL PROCUREMENT								4	25.3	4	27.3	8	88.2	6	34.0	4	35.9	28	198.7	54	409.4	
Notes:																						
1. Totals do not add due to rounding																						
2. Asterisk indicates amount less than 51K																						
* The lab asset (complete JMOD A&B Kit) procured under RDT&E will be installed into an active A/C upon completion of the program to reach the inventory level of 12.																						

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E

MODIFICATION TITLE: EP-3E Joint Sigint Avionics Family (JSAF) Modification Program (JMOD) (OSIP 01-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Contractor Installation

ADMINISTRATIVE LEADTIME: 5 Months

JMOD PRODUCTION LEADTIME: 12 Months

PIPELINE AIRCRAFT LEADTIME: 24 Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000: FY 2001: 2/01

DELIVERY DATE: FY 1998: FY 1999: FY 2000: FY 2001: 2/02

(\$ in Millions)

Cost:	Prior years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 (2) kits											2	3.0									2	3.0
FY 2002 (2) kits													2	3.0							2	3.0
FY 2003 (4) kits													1	6.5	3	5.1					4	11.6
FY 2004 (3) kits																	3	5.1			3	5.1
FY 2005 (2) kits																			2	3.1	2	3.1
To Complete (14) kits																			14	21.2	14	21.2
TOTAL											2	3.0	3	9.5	3	5.1	3	5.1	16	24.3	27	47.0

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
In																			1		1		1		2	
Out																				1				1		

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	1	1		1	1	1		1	16	27
Out	1		1	1		2	1	1	17	27

CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40										DATE: February 2000																																																																																																																																																																																																																		
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE P-3 Series Modifications																																																																																																																																																																																																																				
Program Element for Code B Items:								Other Related Program Elements																																																																																																																																																																																																																				
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																																																																																																																
QUANTITY																																																																																																																																																																																																																												
COST (In Millions)	1,432.0		227.5	330.1	388.5	60.7	121.5	91.6	95.8	103.6	2,182.5	5,033.9																																																																																																																																																																																																																
<p>This line item funds modifications to P-3 aircraft. The P-3 Orion is a 4 engine, long-range maritime surveillance aircraft which performs Anti-Submarine (ASW) and Anti-Surface Warfare (ASUW) in support of battle group and littoral operations. The overall goal of the modifications budgeted in FY2001 is to continue the USQ-78 installation (part of Update III), weapon system improvements, upgrading and refurbishing airframe components and systems. Total aircraft inventory is 228. The P-3C has an average service life of 29.5 years. The specific modifications budgeted and programmed are:</p> <p style="text-align: center;">(TOA, \$ in Millions)</p> <table border="1"> <thead> <tr> <th>OSIP No.</th> <th>Description</th> <th>Prior Years</th> <th>FY 1998</th> <th>FY 1999</th> <th>FY 2000</th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> <th>FY 2004</th> <th>FY 2005</th> <th>To Complete</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>80-84</td> <td>Update III Block Upgrade</td> <td>773.6</td> <td>42.8</td> <td>70.1</td> <td>93.7</td> <td>17.7</td> <td>28.6</td> <td>21.8</td> <td>28.3</td> <td>34.4</td> <td>176.2</td> <td>1287.3</td> </tr> <tr> <td>53-85</td> <td>Critical Systems Improvements</td> <td>13.0</td> <td>1.9</td> <td>1.2</td> <td>1.2</td> <td>1.0</td> <td>1.0</td> <td>0.9</td> <td>0.6</td> <td>0.9</td> <td></td> <td>21.6</td> </tr> <tr> <td>60-86</td> <td>UHF/VHF Comm. Update</td> <td>77.0</td> <td>11.5</td> <td>12.5</td> <td>3.7</td> <td>5.4</td> <td>3.6</td> <td>6.5</td> <td>9.0</td> <td>8.3</td> <td>7.2</td> <td>144.6</td> </tr> <tr> <td>28-92</td> <td>GPS</td> <td>18.8</td> <td>9.2</td> <td>9.0</td> <td>2.6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>39.6</td> </tr> <tr> <td>42-92</td> <td>CNIP</td> <td>92.4</td> <td>0.2</td> <td>3.8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>96.4</td> </tr> <tr> <td>10-94</td> <td>Sustained Readiness</td> <td>158.8</td> <td>61.7</td> <td>54.6</td> <td>42.3</td> <td>5.0</td> <td>70.2</td> <td>60.7</td> <td>58.0</td> <td>59.9</td> <td>1999.0</td> <td>2570.2</td> </tr> <tr> <td>29-94</td> <td>ASUW Improv. Prog.</td> <td>297.6</td> <td>99.3</td> <td>131.1</td> <td>196.6</td> <td>31.6</td> <td>18.3</td> <td>1.7</td> <td></td> <td></td> <td></td> <td>776.1</td> </tr> <tr> <td>19-96</td> <td>P-3 Derivative A/C GPS</td> <td>0.8</td> <td>0.2</td> <td>1.5</td> <td>0.4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2.9</td> </tr> <tr> <td>27-97</td> <td>P-3 (VP-3A SATCOM)</td> <td>0.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.2</td> </tr> <tr> <td>24-98</td> <td>P-3 (UP-3A SATCOM)</td> <td></td> <td>0.7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.7</td> </tr> <tr> <td>33-99</td> <td>Counter Drug</td> <td></td> <td></td> <td>5.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5.2</td> </tr> <tr> <td>34-99</td> <td>Additional Aircraft #1</td> <td></td> <td></td> <td>41.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>41.0</td> </tr> <tr> <td>22-00</td> <td>Additional Aircraft #2</td> <td></td> <td></td> <td></td> <td>48.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>48.1</td> </tr> <tr> <td>TOTAL</td> <td></td> <td>1432.0</td> <td>227.5</td> <td>330.1</td> <td>388.5</td> <td>60.7</td> <td>121.5</td> <td>91.6</td> <td>95.8</td> <td>103.6</td> <td>2182.5</td> <td>5033.9</td> </tr> </tbody> </table> <p>The amounts listed below show Reserve A/C funding which are included in the amounts above:</p> <table border="1"> <tbody> <tr> <td></td> <td>3.4</td> <td>6.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9.9</td> </tr> </tbody> </table> <p>* Indicates value less than \$51,000 Totals may vary due to rounding</p>													OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total	80-84	Update III Block Upgrade	773.6	42.8	70.1	93.7	17.7	28.6	21.8	28.3	34.4	176.2	1287.3	53-85	Critical Systems Improvements	13.0	1.9	1.2	1.2	1.0	1.0	0.9	0.6	0.9		21.6	60-86	UHF/VHF Comm. Update	77.0	11.5	12.5	3.7	5.4	3.6	6.5	9.0	8.3	7.2	144.6	28-92	GPS	18.8	9.2	9.0	2.6							39.6	42-92	CNIP	92.4	0.2	3.8								96.4	10-94	Sustained Readiness	158.8	61.7	54.6	42.3	5.0	70.2	60.7	58.0	59.9	1999.0	2570.2	29-94	ASUW Improv. Prog.	297.6	99.3	131.1	196.6	31.6	18.3	1.7				776.1	19-96	P-3 Derivative A/C GPS	0.8	0.2	1.5	0.4							2.9	27-97	P-3 (VP-3A SATCOM)	0.2										0.2	24-98	P-3 (UP-3A SATCOM)		0.7									0.7	33-99	Counter Drug			5.2								5.2	34-99	Additional Aircraft #1			41.0								41.0	22-00	Additional Aircraft #2				48.1							48.1	TOTAL		1432.0	227.5	330.1	388.5	60.7	121.5	91.6	95.8	103.6	2182.5	5033.9		3.4	6.5										9.9
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																																																																																																																
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53-85	Critical Systems Improvements	13.0	1.9	1.2	1.2	1.0	1.0	0.9	0.6	0.9		21.6																																																																																																																																																																																																																
60-86	UHF/VHF Comm. Update	77.0	11.5	12.5	3.7	5.4	3.6	6.5	9.0	8.3	7.2	144.6																																																																																																																																																																																																																
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	3.4	6.5										9.9																																																																																																																																																																																																																

CLASSIFICATION:

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Update III Block Upgrade (OSIP 80-84)

MODELS OF SYSTEM AFFECTED: P-3C

TYPE MODIFICATION: Operational Improvement

DESCRIPTION/JUSTIFICATION:

The Update III Common Configuration provides the Fleet with significantly improved anti-submarine warfare detection and classification which are essential for target prosecution in average and poor water conditions. This program will modify older P-3's to an Update III common configuration. This modification includes associated processors, receivers, displays, and recorders. Update III Common Configuration is comprised of two major efforts: the Block Modification Upgrade program and the AN/USQ-78 Upgrade program. Both are based on Decision Coordinating Paper W-080-AS and the Program Management Plan #0526 serial 902D/6U324405. The objective of the Block Modification Upgrade program is to standardize the Maritime Patrol Aircraft fleet to the Update III configuration. This OSIP will update the configuration of 25 Update I, II, and II.5 aircraft towards the total inventory requirement of 221 aircraft. Eight of the 25 aircraft are Reserve assets. The objective of the AN/USQ-78 Upgrade program is to correct display shortcomings of the USQ-78 system as identified by Fleet Operational Advisory Group and by Operational Test and Evaluation, to provide for future workload sharing capability as directed by Chief Naval Operations (CNO) and processing growth for the life of the aircraft. Total aircraft and lab trainers to be modified by Loral ECP #LFS-95-0011 is 152. Trainer procurement of Generic Acoustic Stimulation System (GASS) beginning and FY02 through FY05 will modify existing Weapon System Trainers (WST).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Update III received approval for limited production in December 1983 and December 1984. Approval for full production was received in January 1986.

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Update III Block Upgrade (OSIP 80-84)MODELS OF SYSTEM AFFECTED: P-3CTYPE MODIFICATION Operational Improvement

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Prior Year Kits	434	72.5																			434	72.5
MK-50 Kits	147	4.0																			147	4.0
USQ-78A Kits	9	1.4	8	1.3	8	1.3	8	1.3	5	.9	9	1.6	6	1.1	13	2.4	13	2.5	73	15.2	152	28.9
Block Mod Upgrade Kits					5	2.5	3	1.5													8	4.0
Installation Kits N/R		36.2		5.9		14.0		1.0					1.0							2.8		60.9
Installation Equipment																						
Prior Year Equipment	1,181	349.8																			1,181	349.8
CP-2044/ASQ CPU Equip	121	64.1																			121	64.1
USQ-78A/CHRDS Equip	9	42.4	8	9.6	8	8.6	8	8.1	5	8.4	9	12.6	6	10.0	13	16.9	13	17.5	73	101.7	152	235.7
CHRDS Equip	4	.1																			4	.1
Block 1C Harpoon Equip	126	4.8			5	.1	17	.3													148	5.1
AN/ASH-33/RDSS	101	16.6	120	7.7																	221	24.3
Common CONFIG Equip					5	22.2	17	69.1													22	91.3
PEP Equip			7	2.7	10	2.3	8	1.5													25	6.5
DASD/DASD Docks Equip	15	.1	30	.3	16	.1	17	.1	10	.1	18	.1	12	.1	26	.2	26	.2	146	1.4	316	2.8
ADR						4.8		2.8														7.6
LESPA Equip				7.6		7.1		2.8														17.4

Notes:

1. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Update III Block Upgrade (OSIP 80-84)MODELS OF SYSTEM AFFECTED: P-3CTYPE MODIFICATION Operational Improvement

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RD&E																						
Installation Equipment N/R		47.7																				47.7
Engineering Change Orders																						
Data		13.4		.8		.9		.5		.5		.4		.5		.7		.2		5.2		23.2
Training Equipment		12.0		.7		.3		.6		.2		1.0		5.1		5.7		11.8		24.8		62.1
Support Equipment		1.6																				1.6
ILS		.9																				.9
Other Support		84.7		6.3		5.4		3.8		5.3		2.7		2.1		1.8		1.9		18.8		132.7
Interim Contractor Support																						
Installation Cost	486	21.2			7	.4	10	.5	9	2.3	14	10.1	6	2.0	9	.5	6	.3	99	6.4	646	43.9
TOTAL PROCUREMENT	2,147	773.6	173	42.8	57	70.1	78	93.7	20	17.7	36	28.6	24	21.8	52	28.3	52	34.4	292	176.2	2,931	1287.3

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3CMODIFICATION TITLE: Update III Block Upgrade (OSIP 80-84) USQ-78A

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished on-site by contractor field teamADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 22 MonthsCONTRACT DATES: FY 1998: 1/98FY 1999: 1/99FY 2000: 1/00FY 2001: 1/01DELIVERY DATE: FY 1998: 11/99FY 1999: 11/00FY 2000: 11/01FY 2001: 11/02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (17) kits					7	.3	10	.5													17	.8
FY 1999 (8) kits									8	.4											8	.4
FY 2000 (8) kits											8	.5									8	.5
FY 2001 (5) kits													5	.3							5	.3
FY 2002 (9) kits															9	.5					9	.5
FY 2003 (6) kits																	6	.3			6	.3
FY 2004 (13) kits																			13	.8	13	.8
FY 2005 (13) kits																			13	1.0	13	1.0
To Complete (73) kits																			73	4.6	73	4.6
TOTAL					7	.3	10	.5	8	.4	8	.5	5	.3	9	.5	6	.3	99	6.4	152 **	9.4

** Two (2) kits installed in Lab. These will be installed in FY00.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In						2	2	1	2	2	2	3	3	2	2	2	2	2	2	2	2	1	1	1	2
Out						2	2	1	2	2	2	3	3	2	2	2	2	2	2	2	2	1	1	1	2

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	2	2	2	3	2	1	2	1	99	152
Out	2	2	2	3	2	1	2	1	99	152

Completions same as inductions; one week effort.

- Integration of PEP into USQ-78A including ECP is scheduled for FY98. All USQ-78A procured after FY97 will include PEP. Seven (7) retrofits procured in FY98 will retrofit 7 USQ-78A kits procured in FY97.
- USQ-78A to be installed in trainers as depicted in the APN-5 install portion of the OSIP.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3CMODIFICATION TITLE: Update III Block Upgrade (OSIP 80-84) Block Mod Upgrade

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished at contractor's facility.ADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 24 MonthsCONTRACT DATES: FY 1998: _____ FY 1999: 6/99 FY 2000: 1/00DELIVERY DATE: FY 1998: _____ FY 1999: 6/01 FY 2000: 1/02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (5) kits									1	1.9	4	6.4									5	8.3
FY 2000 (3) kits											2	3.2	1	1.6							3	4.8
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL									1	1.9	6	9.6	1	1.6							8	13.1

NOTE: Block Mod Upgrade modifies 25 aircraft; 15 install kits and installations funded via a separate program outside OSIP 80-84; 8 install kits and installations reflected above for USNR;
2 kits and installations support validation effort through NRE.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																1		1	1	2	2	1			
Out																		1	1		1	1	2	2	1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										8
Out										8

Exhibit P-3a	INDIVIDUAL MODIFICATION	
MODIFICATION TITLE: <u>Critical Systems Improvements (OSIP 53-85)</u>		
MODELS OF SYSTEM AFFECTED: <u>P-3C</u>	TYPE MODIFICATION: <u>Operational Improvement/Safety</u>	
DESCRIPTION/JUSTIFICATION:		
<p>The purpose of this program is to provide the requisite funding to implant various minor cost effective changes to critical P-3 weapon systems. These changes are essential to the operation of the aircraft and/or it's mission systems, but are not currently being addressed by an existing aircraft modification program. The changes can be either airframe, avionic, or procedures.</p> <p>STANDBY ATTITUDE INDICATOR (PEANUT GYRO) ECP BFGAAS ID-1481A/A-25583-48: This ECP modifies the P-3C Standby Attitude Indicator (Peanut Gyro) to operate with a DC power vice an AC power. This modification is planned for 253 aircraft (228 P-3C and 25 derivatives) 14 trainers and a rotatable pool of 50 units that will be established to support installation.</p> <p>E-J RECEIVER MOD AN/ALR-66 B(V)3 ECP LITTON 970: The AN/ALR-66B(V)3 ECP upgrades certain components of the AN/ALR-66A(V)3 ESM to improve system performance, including the E-J Amplifier Receivers, CD Amplifier Receivers, Processor Interface and Computer Converter. The effort under this OSIP supports the modification and certain RIM in support of AN/ALR-66 B(V)3 installs on 145 P-3C aircraft, 6 operational trainers and 10 test bench installations.</p> <p>APS-115 FEEDBALL MODIFICATION ECP CUBIC 2509-02F3: This ECP are liability and performance improvement to the APS-115 radar feedball. The unmodified feedballs are susceptible to burning out which decreased the APS 115 sensitivity (or caused failure) and made the feedball incompatible with the AN/ALR-66 B(V)3 ESM system, which uses the feedball as the center channel receiver. This modified will be installed in all APS-115 equipped aircraft. This modification effects 90 P-3C aircraft.</p> <p>P-3 PILOT/COPILOT/ PLANE CAPTAIN SEAT MODIFICATION FOR THE MA-16 INERTIA REEL ECP JAX P3-519: MA-1 and MA-2 Inertia Reels are no longer available in the supply system and further procurement is anticipated. This ECP provides a kit to modify 50 Pilot/Copilot/Plane Captain seats to install the MA-16 Inertia Reel as a substitute for the MA-1/2 to meet outstanding requirements.</p>		
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:		
<p>The changes identified are minor and do not require approval for full production.</p>		

Exhibit P-3a

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Critical Systems Improvements (OSIP 53-85)

MODELS OF SYSTEM AFFECTED: P-3C

TYPE MODIFICATION: Operational Improvement/Safety

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
APS-115 Feedball Mod	76	1.3	14	.4																	90	1.6
EJ Receiver Mod			120	.5	25	.3															145	.8
Standby (Peanut) Gyro Mod			60	.3	40	.2	40	.3	40	.3	40	.3	40	.3	26	.2	31	.3			317	2.1
MA-16 Inertial Reel Mod kits			50	.1																	50	.1
Prior Years Kits	171	7.6																			171	7.6
Installation Kits N/R		1.0		*																		1.0
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.3		.4		.4		.3		.3		.3		.3		.2		.3				3.4
Training Equipment		.1						.3		.1		.1		.1								.8
Support Equipment		*		.1																		.1
ILS		*																				*
Other Support		.8		.3		.4		.3		.3		.3		.3		.2		.3				3.2
Interim Contractor Support																						
Installation Cost		.9		**		**		**		**		**		**		**		**				.9
TOTAL PROCUREMENT	247	13.0	244	1.9	65	1.2	40	1.2	40	1.0	40	1.0	40	.9	26	.6	31	.9				21.6

Notes:

1. Totals do not add due to rounding
 2. Asterick indicates amount less than 51K
- ** "O"-Level Installs - No Cost

Exhibit P-3a

MODIFICATION TITLE: Ultra High Frequency (UHF)/Very High Frequency (VHF) Communications Update (OSIP 60-86)

MODELS OF SYSTEM AFFECTED: P-3A/B/C & 4 Special Projects

TYPE MODIFICATION: Operational Improvement

DESCRIPTION/JUSTIFICATION:

P-3 aircraft have an operational requirement for UHF satellite communications (SATCOM) and currently have satellite capable communications suites. JCS Memo CJCSI 6251.01 OF 31 July 1996 modified SATCOM access to require Advanced Narrowband Digital Voice Terminal (ANDVT) and Demand Assigned Multiple Access (DAMA) standards by 30 September 1996. In addition, the ARC-101 VHF radio does not have a 25KHz channel capability and does not comply with Air Traffic Control regulations and represents a potential safety of flight issue. The older UHF and VHF (ARC-143 and ARC-101) radios suffer from considerable degraded performance because of crosswalk sensitivity, lack of channel selectivity, intermodulation and are not compatible with the JCS satellite access requirements. The ARC-182 is the Navy's standard VHF radio and corrects the VHF deficiencies. The ARC-187 is currently installed in 179 P-3 aircraft and meets all P-3 requirements. In FY 1993, Vinson Baseband kits were procured to provide succinct channel identification for the ARC-187 radios currently installed in P-3 aircraft.

The FY 1994 and subsequent programs will bring all 228 P-3C aircraft to a common radio configuration which meets all requirements for SATCOM and Havequick. Due to differences in current aircraft configuration, there are 4 types of kits to be installed: 23 aircraft will receive the AN/ARC-187/182/ANDVT/DAMA SATCOM installation; 20 aircraft will receive the AN/ARC-187/ANDVT/DAMA SATCOM installation; 43 aircraft will receive the AN/ARC-182/ANDVT/DAMA SATCOM installation; 142 aircraft will receive the DAMA SATCOM installation.

P-3C Communications Improvement Program (CIP) Engineering Change Proposal (ECP) Lockheed 1025: This ECP covers the installation of the kit and equipment necessary for DAMA SATCOM which includes the AN/ARC-187/VIASAT Modem combination, modified ARC-187 Controls and Advanced Narrowband Digital Voice Terminal (ANDVT). In aircraft that presently do not have an ARC-187 UHF and/or ARC-182 VHF radios installed, ECP 988 (UHF) and/or ECP 990 (VHF) will be installed in conjunction with ECP 1025.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ARC-182 and ARC-187 radios have Approval for Full Production (AFP) and are verified in the P-3 aircraft. ECP 1025 (CIP) was approved in January 1997. DAMA SATCOM certification for the ARC-187/Viasat Modem combination was received in March 1998. Production installations began in February 1999.

MODIFICATION TITLE: Ultra High Frequency (UHF)/Very High Frequency (VHF) Communications Update (OSIP 60-86)

MODELS OF SYSTEM AFFECTED: P-3A/B/C & 4 Special Projects

TYPE MODIFICATION: Operational Improvement

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC(P-3C)ARC-182	134	2.6																			134	2.6
AFC(P-3C)ARC-187	163	2.2																			163	2.2
AFC(P-3A/B)ARC-182	11	.3																			11	.3
AFC(P-3C)UHF/VHF UPGRADE	26	.3																			26	.3
AFC(P-3C)KG-84	143	2.6																			143	2.6
AFC(P-3C)SATCOM COMPATIBILITY	141	1.6																			141	1.6
AFC(P-3C)VINSON BASEBAND	378	2.2																			378	2.2
AFC(P-3C)ARC-182/187/ANDVT/DAMA					8	.3							2	.1	8	.4	5	.2			23	1.1
AFC(P-3C)ARC-187/ANDVT/DAMA					6	.2	4	.2					2	.1	4	.2	4	.2			20	.8
AFC(P-3C)ARC-182/ANDVT/DAMA					9	.3					1	*	8	.3	6	.3	7	.3	12	.5	43	1.8
AFC(P-3C)ANDVT/DAMA	1	.1	42	1.0	23	.5	5	.1	13	13.3	13	.3	17	.4	11	.3	11	.3	6	.2	142	3.4
Installation Kits N/R		23.0		.9		.1																24.1
Installation Equipment																						
ARC-187 (2 per A/C)	326	16.0			28	1.6	8	.5					8	.5	24	1.5	18	1.2			412	21.1
ARC-182	152	4.1		**	17	*					1	*	10	*	14	*	12	*	12	*	218	4.3
ARC-187 Control (2 per A/C)	2	*	92	1.3	92	1.6	20	.3	26	.5	28	.5	58	1.1	58	1.1	54	1.1	36	.7	466	8.2
CRYPTO Fill Port (2 per A/C)	14	*	90	.1	92	.1	20	*	26	*	28		58	.1	58	.1	54	.1	36	.1	476	.7
RF Interface (1 per A/C)	1	****	44	.7	46	.8	10	.2	13	.2	14	.2	29	.5	29	.5	27	.5	18	.4	231	4.0
Modem (1 per A/C)	1	**	42	1.8	49	2.0	10	.4	13	.5	14	.5	29	1.3	29	1.3	27	1.2	18	.9	232	10.0
ANDVT	1	***	44	***	46	***	20	***	13	***	14	***	29	***	29	***	27	***	18	***	241	***
Installation Equipment N/R																						2.7
Engineering Change Orders																						
Data		5.0		1.3																		6.3
Training Equipment	46	1.0	6	1.5	6	.4	6	.4													64	3.3
Support Equipment		2.3																				2.3
ILS		.4		.7		.5		.2		.2		.2		.1		.1		.1		.1		2.5
Other Support		4.7		2.3		2.2		.6		.6		.5		.6		.6		.6		.5		13.2
Interim Contractor Support																						
Installation Cost	997	5.7			29	1.8	8	.8	45	.0	17	1.2	19	1.4	32	2.6	29	2.5	48	3.8	1,224	22.9
TOTAL PROCUREMENT	1,540	77.0	360	11.5	422	12.5	103	3.7	104	5.4	113	3.6	250	6.5	270	9.0	246	8.3	156	7.2	3,564	144.6

Notes:

1. Totals do not add due to rounding ** AN/ARC-182 radios to be obtained from F/A18 or other aircraft installing AN/ARC-210 radios.
 2. Asterisk indicates amount less than 51K *** ANDVT provided by NSA. **** Included in Prototype A-Kit cost.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3A/B/CMODIFICATION TITLE: Ultra High Frequency (UHF)/Very High Frequency (VHF) Communications Update (OSIP 60-86)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: P-3A/B/C & 4 Special ProjectsADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 12 MonthsCONTRACT DATES: FY 1998: 7/98FY 1999: 7/99FY 2000: 3/00FY 2001: 3/01DELIVERY DATE: FY 1998: 2/99FY 1999: 3/00FY 2000: 3/01FY 2001: 3/02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (1039) kits	997	5.7			29	1.8	8	.8	5	.4											1,039	8.5
FY 1999 (46) kits									40	2.6	6	.4									46	3.0
FY 2000 (9) kits											9	.7									9	.7
FY 2001 (13) kits											2	.1	11	.8							13	.9
FY 2002 (14) kits													8	.6	6	.4					14	1.0
FY 2003 (29) kits															26	2.2	3	.2			29	2.4
FY 2004 (29) kits																	26	2.3	3	.2	29	2.5
FY 2005 (27) kits																			27	2.1	27	2.1
To Complete (18) kits																			18	1.5	18	1.5
TOTAL	997	5.7			29	1.8	8	.8	45	3.0	17	1.2	19	1.4	32	2.6	29	2.5	48	3.8	1,224	22.9

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	997								29		2	3	3	11	11	11	12	5	4	4	4	4	5	5	5
Out	997								29		2	3	3	3	11	11	11	12	5	4	4	4	4	4	5

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	8	8	8	8	7	7	7	8	48	1224
Out	5	8	8	8	8	7	7	7	56	1224

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 28-92)

MODELS OF SYSTEM AFFECTED: P-3C, SPECIAL PROJECTS

TYPE MODIFICATION: Operational Improvement / Safety

DESCRIPTION/JUSTIFICATION:

The NAVSTAR Global Positioning System (GPS) is a space-based radio positioning and navigation system that will provide three dimensional position, velocity, and time information to suitably equipped users worldwide in all weather conditions. The GPS equipment consists of a receiver/processor, interface unit, fixed and controlled pattern antennas, and a control display unit. The GPS will provide highly improved navigation accuracy, enhancing mission effectiveness in all areas. Congress has mandated that GPS be installed by FY00. This modification affects 228 P-3C aircraft (175 active and 49 reserve), and 4 Special Projects aircraft.

GPS Engineering Change Proposal (ECP) NADEP JAX 187: This ECP covers the installation of the GPS kit and equipment. Spawar provides the ARN-151 GPS Receiver, the AE-4 Antenna system, the 1553 data bus and 3 Control Display Navigation Units (CDNUs) as GFE.

ELECTRONIC FLIGHT DISPLAY SYSTEM (EFDS) ECP NADEP JAX 187R5/491: This ECP replaces the existing pilot and copilot analog Flight Director Indicator (FDI) and Horizontal Situation Indicator (HSI) and Navigator/Communicator HSI with Electronic FDI's (EFDI) and Electronic HSI's (EHSI). The Electronic flight instruments are being installed to correct an interoperability deficiency discovered during Operational Testing.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NAVSTAR GPS program received approval for limited production (ALP) in June 1986 and received Approval for Full Production (AFP) in January 1992. Developmental testing (DT-III) of the GPS installation in a P-3C was completed in June 1992. Follow-on Test and Evaluation (OT-III) was completed in January 1994. GPS is presently in full production and will complete installations in FY00.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
GPS Airframe Kit	135	4.6	67	1.6	26	.5															228	6.7
EFDS Airframe Kit	1	.3	26	1.2	18	.8															45	2.4
Installation Kits N/R		.8																				.8
Installation Equipment																						
LTN-72	2	1.9																			2	1.9
EFDS EHSIEFDI	267	4.2	60	1.2																	327	5.4
EFDS Controls	160	.3	36	.1																	196	.4
ASM	113	.8	67	.6	38	.4															218	1.8
Installation Equipment N/R																						
Engineering Change Orders																						
Data		.1		.1		.4																.7
Training Equipment		.4		1.2		2.8																4.4
Support Equipment																						
ILS				.2		.3		.1														.5
Other Support		2.5		1.5		1.4		.3														5.7
Interim Contractor Support																						
Installation Cost	96	2.8	46	1.6	60	2.3	26	2.2													228	8.9
TOTAL PROCUREMENT	678	18.8	256	9.2	82	9.0		2.6													1,016	39.6

Notes:

1. Totals do not add due to rounding.
2. Asterisk indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3C, SPECIAL PROJECTSMODIFICATION TITLE: Global Positioning System (OSIP 28-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Jax Field Team/Contractor Field TeamADMINISTRATIVE LEADTIME: 5 MonthsPRODUCTION LEADTIME: 8 MonthsCONTRACT DATES: FY 1998: 2/98 FY 1999: 2/99 FY 2000: DELIVERY DATE: FY 1998: 10/98 FY 1999: 10/99 FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (202) kits	96	2.8	46	1.6	60	2.3															202	6.7
FY 1999 (26) kits							26	2.2													26	2.2
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	96	2.8	46	1.6	60	2.3	26	2.2													228	8.9

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	96	10	12	12	12	15	15	15	15	6	6	7	7												
Out	87	9	10	12	12	12	15	15	15	15	6	6	7	7											

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										228
Out										228

MODIFICATION TITLE: Counter Narcotics Improvement Program (CNIP) (OSIP 42-92)MODELS OF SYSTEM AFFECTED: P-3CTYPE MODIFICATION Improved Capability

DESCRIPTION/JUSTIFICATION:

Chief of Naval Operations (N313) has identified a requirement for a bolt-on/bolt-off AN/APG-66 Air-to-Air radar system, electro-optical imaging, and intelligence collection equipment to counter narcotic trafficking operations. These systems will be transportable between standard P-3C aircraft to allow operational flexibility of available airframes. Funding is identified and appropriated on an annual basis for transfer from the DOD Counter Narcotics. ECP JAX-P3-391 for Rigel Equipment procurement and installation into (8) UDII and (5) UDII.5 P-3C aircraft was approved 23 Jan 95. ECP JAX-P3-315 for APG-66 Air-to-Air RADAR and Cluster Ranger Electro-Optical Imaging on (18) non Roll-On Roll-Off and (8) Roll-On Roll-Off kits was approved 30 Jun 94. FY1997 funding provided under the Economy Act for procurement of Counterdrug equipment for U.S. Customs Agency. FY99 funds provided to procure AN/AAQ-22 STAR SAFIRE FLIR systems, and initiate AVX-1 upgrade.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval for full production is not required.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
P-3 Kits (APG-66/AVX-1)	18	.9																			18	.9
RIGEL System	18	.4																			18	.4
Installation Kits N/R		1.3																				1.3
Installation Equipment																						
P-3 Customs/AEW Mods		46.3																				46.3
APG-66	10	11.6		.2																	10	11.8
AVX-1	8	6.1				.1															8	6.3
RIGEL System	10	8.6																			10	8.6
FLIR					6	3.4															6	3.4
Installation Equipment N/R		4.8				.2																5.0
Engineering Change Orders																						
Data		.8																				.8
Training Equipment		.2																				.2
Support Equipment		.3																				.3
ILS		.5																				.5
Other Support		7.3				.1																7.3
Interim Contractor Support		.6																				.6
Installation Cost	36	2.7																			36	2.7
TOTAL PROCUREMENT	64	92.4		.2		3.8															64	96.5

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3C MODIFICATION TITLE: Counter Narcotics Improvement Program (CNIP) (OSIP 42-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Jacksonville Field Modification Team

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000:

DELIVERY DATE: FY 1999: FY 1999: FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (36) kits	36	2.7																			36	2.7
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	36	2.7																			36	2.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	20	2	4	2	2	6																			
Out	18	2	4	2	2	4	4																		

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										36
Out										36

MODIFICATION TITLE: Sustained Readiness Program (SRP) (OSIP 10-94)MODELS OF SYSTEM AFFECTED: P-3CTYPE MODIFICATION: Sustainment

DESCRIPTION/JUSTIFICATION:

The Sustained Readiness Program, encompassing AFC 578, is an Operational Service Life Extension Program which will extend the operational service life of P-3C from present 30 years to the aircraft's fatigue life (approximately 38 years) by preemptively replacing airframe components and systems identified as having impact on future aircraft availability due to safety, structural performance, and component unsupportability. This will allow full realization of the aircrafts designed service life but will not extend the fatigue life of those aircraft. If left unchecked, these problem areas collectively will result in significant loss of aircraft from the operational inventory due to operational and support funding limitations. To ensure future aircraft safety and supportability, this procurement investment includes a number of cost-effective modifications to a number of systems which are among the principle maintenance degraders on the aircraft. Supportability items include modification to the environmental control system, and the fuel quantity system. The SRP affects 229 aircraft and is a critical component to the overall MPA force management strategy to satisfy the Total Force Level Warfighting Requirement of 12 Active squadrons, 7 reserve squadrons (42 end items), a Fleet Replacement Squadron and various special project aircraft for a total of 228 aircraft (as delineated in the Navy Maritime Patrol Aircraft Ten-Year Plan). An SRP upgraded aircraft was delivered in the 3rd quarter of FY 1999 to act as the fatigue test article for the Service Life Assessment Program. The validating Operational Requirements Document is ORD ser #339-88-93. Supports preliminary acquisition for Service Life Extension Program (SLEP).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Competitive bid contract awarded 19 September 1994. Preparations for follow-on contract award are on hold pending the outcome of the program restructure.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC Kit-SRP	29	36.2	12	16.4							5	12.2	2	4.8	5	12.4	5	12.8	162	441.3	220	536.3
AFC Kit-SRP Option	9	13.3																			9	13.3
Cond Kits		23.7		4.8		7.2		9.6			3.6		1.5		3.7		3.8		136.2			194.2
Installation Kits N/R		31.4																				31.4
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		4.1		.3		.2					.3		.3		.3		.3		3.1			8.9
Training Equipment		.2																				.2
Support Equipment		.1																				.1
ILS		2.6																				2.6
Other Support		13.6		4.8		4.8		8.2		5.0		5.1		5.2		5.3		5.5		60.9		115.3
Interim Contractor Support																						
Installation Cost	11	33.6	14	35.4	7	42.4		24.5			7	48.9	7	48.8	5	36.1	5	37.4	173	1357.5	229	1664.6
TOTAL PROCUREMENT	38	158.8	12	61.7		54.6		42.3		5.0	5	70.2	2	60.7	5	58.0	5	59.9	162	1999.0	229	2570.2

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3CMODIFICATION TITLE: Sustained Readiness Program (SRP) (OSIP 10-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished by contractor mod teams.ADMINISTRATIVE LEADTIME: 3 MonthsPRODUCTION LEADTIME: 24 MonthsCONTRACT DATES: FY 1998: 12/97FY 1999: 9/99

FY 2000: _____

FY 2001: _____

DELIVERY DATE: FY 1998: 12/99FY 1999: 9/01

FY 2000: _____

FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (50) kits	11	33.6	14	35.4	7	42.4		24.5			7	48.9	7	48.8	4	28.9					50	266.6
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 (5) kits															1	7.2	4	30.0			5	37.2
FY 2003 (2) kits																	1	7.5	1	6.9	2	14.3
FY 2004 (5) kits																			5	34.6	5	34.6
FY 2005 (5) kits																			5	35.5	5	35.5
To Complete (162) kits																			162	1280.5	162	1,280.5
TOTAL	11	33.6	14	35.4	7	42.8		24.5			7	48.9	7	48.8	5	36.1	5	37.4	173	1357.5	229	1,664.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	11		1		13			5	2									1	2	2	2	1	2	2	2
Out				1			1	1	2	2	2	2	2	2	3	3	2	3	3	3	3	3	3	3	3

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	1	1	1	2	1	1	1	2	173	229
Out	3	3	3	3	2	2	2	2	162	229

MODIFICATION TITLE: Anti-Surface Warfare (ASUW) Improvement Program (OSIP 29-94)

MODELS OF SYSTEM AFFECTED: P-3C

TYPE MODIFICATION: Operational Improvement

DESCRIPTION/JUSTIFICATION:

The ASUW Improvement Program meets the Navy's requirement to rapidly provide a significant increase while addressing long range deficiencies in the current P-3's ability to perform Anti-Surface Warfare (ASUW), Over-the-Horizon Targeting (OTH-T), and Command, Control, Communications, and Intelligence (C3I). UNISYS/LORAL/LMTDS ECP AIP-001R1 was signed out in 1996 formally implementing the design change. The program procures non-developmental items and commercial off-the-shelf systems which have been used in an aircraft environment. The target aircraft for this modification are the P-3C Update III's which have been previously upgraded with the CP-2044 computer. The resulting weapon system will combat the emerging third world, limited operations, surface, subsurface, and air threats with simultaneous multi-mission capabilities. This modification focuses on improving the weapon system's capability for standoff targeting and classification. Significant advantages in non-acoustic processing and capability are provided by a APS-137B (V) 5 imaging radar, a Cluster Ranger electro optical system or the Advanced Imaging Multi-Spectral Sensor (AIMS) electro optical system, Replacement Data Storage System (RDSS), an EP-2060 pulse analyzer, and an increased IRDS focal length. C3I is improved with the Officer in Tactical Command Information Exchange System (OTCIXS), and Tactical Receive Equipment (TRE). Survivability enhancement will include ALE-47/AAR-47 missile warning countermeasures, explosive suppressant foam, and small circular area of probability weapon system to be procured starting in FY1994. Additional funding in FY1995 and FY1996 was utilized to meet an urgent fleet requirement to upgrade 17 Pre-AIP aircraft with Maverick armament control kits. FY1998 N/R is for Specific Emitter Identification (SEI) upgrade incorporation. The P3 AIP operational requirement document (ORD) is Ser # 355-88-94. The P-3C Sensor Integration RDT&E develops software and hardware necessary to integrate advanced sensors into embedded P-3C Update III computer systems, perform worksharing, and integrate tactical data into a fused tactical plot.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This modification makes maximum use of previously developed subsystems. Training aircraft delivered to Fleet in Jan 98. Seventeen production aircraft delivered to Fleet as of June 99.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E (H-2417)				9.4																		9.4
PROCUREMENT																						
Installation Kits																						
AFC A Kit	21	22.7	6	9.1	11	12.7	17	18.7													55	63.1
AFC B Kit		57.1		34.2		53.2		71.3														215.9
Pre-AIP Armament Kit	17	12.9																			17	12.9
Installation Kits N/R		26.5		2.9		2.5																31.9
Installation Equipment																						
GFE Sensors and Avionics		80.7		23.4		41.2		61.5														206.8
Advanced IRDS		4.0																				4.0
Installation Equipment N/R		8.5																				8.5
Engineering Change Orders																						
Data		9.0		1.8		1.8		1.0		.2												13.8
Training Equipment		20.7		7.6		2.8		5.4		3.5		3.7										43.7
Support Equipment		5.0		2.3		2.1		1.0														10.4
ILS		3.4		3.0		3.6		1.4		1.4		.9										13.6
Other Support		41.7		11.5		10.8		11.5		4.8		3.9		1.7								85.9
Interim Contractor Support																						
Installation Cost	21	5.5	6	3.5		.5	13	24.9	12	21.7	3	9.8									55	65.8
TOTAL PROCUREMENT	38	297.6	6	99.3	11	131.1	17	196.6		31.6		18.3		1.7							72	776.1

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3C MODIFICATION TITLE: Anti-Surface Warfare (ASUW) Improvement Program (OSIP 29-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation through FY98 funded turn-key operation. Installation for FY99 and out years funded in the year they occur.

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1998: 11/97 FY 1999: 5/99 FY 2000: 10/99 FY 2001:

DELIVERY DATE: FY 1998: 6/98 FY 1999: 6/00 FY 2000: 2/01 FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (27) kits	21	5.5	6	3.5																	27	8.9
FY 1999 (11) kits						.5	11	21.1													11	21.6
FY 2000 (17) kits							2	3.8	12	21.7	3	9.8									17	35.3
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	21	5.5	6	3.5		.5	13	24.9	12	21.7	3	9.8									55	65.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1	4	4	2	4	2	4	3	3	3	3	3	4	3	3	3	3	2	1						
Out	1			2	3	4	5	4	3	2	2	2	2	2	3	4	4	3	3	3	3				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										55
Out										55

MODIFICATION TITLE: Installation of Global Positioning System (GPS) and Electronic Flight Director System (EFDS) in P-3 Derivative Aircraft (OSIP 19-96)MODELS OF SYSTEM AFFECTED: P-3 Derivative AircraftTYPE MODIFICATION: Operational Improvement / Safety

DESCRIPTION/JUSTIFICATION:

The Global Positioning System (GPS) is a space-based radio positioning and navigation system providing three-dimensional position, velocity, and time information to suitably equipped users worldwide in all weather conditions. GPS equipment (AN/ARN-151) consists of receiver/processor, interface unit, fixed and controlled pattern antennas, and control display unit. The Secretary of Defense has directed that GPS be installed in all "Passenger Carrying" aircraft by October 1998. The purpose of this program is to provide the requisite funding to implement the required modification. The modification will include integration of GPS with other navigation systems and the installation of an Electronic Heading Situation Indicator (EHSI) for display of information.

This modification affects 8 "Passenger-Carrying" P-3 derivative aircraft, 5 VP-3A and 3 UP-3A to be completed in FY1998. Additionally, 7 "Non Passenger-Carrying" aircraft, 1 UP-3A and 1 UP-3B in FY1999 and 2 EP-3J and 3 P-3B in FY2000 will be installed.

GPS Engineering Change Proposal (ECP) NADEP JAX P3-479: This ECP installs the AN/ARN-151 GPS and associated equipment to integrate into the Control Display Navigation Unit (CDNU), Mission Data Loader, and 1553B Data Bus System.

Hardware (GPS "A" Kits) will be provided by GPS Common Avionics OSIP 71-88. Software updates will be provided by OSIP 28-92.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit	10	.1			5	.4															15	.5
Installation Kits N/R		.3																				.3
Installation Equipment																						
EHSI/FNIB/FNIB Adapter					5	1.0															5	1.0
Installation Equipment N/R																						
Engineering Change Orders																						
Data		.1				.1																.2
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		.2				*																.2
Interim Contractor Support																						
Installation Cost	2	.1	8	.2			5	.4													15	.8
TOTAL PROCUREMENT	2	.8		.2		1.5		.4														2.9

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3 Derivative AircraftMODIFICATION TITLE: Installation of Global Positioning System (GPS) and Electronic Flight Director System (EFDS)
in P-3 Derivative Aircraft (OSIP 19-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot level field team will perform installationsADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 5 MonthsCONTRACT DATES: FY 1998: 6/97 FY 1999: 10/98 FY 2000: _____DELIVERY DATE: FY 1998: 2/98 FY 1999: 3/99 FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (10) kits	2	.1	8	.2																	10	.4
FY 1999 (5) kits							5	.4													5	.4
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	2	.1	8	.2			5	.4													15	.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2			3	1	2	3	4
In	2		2	3	3					2	3								2							
Out	2		2	3	3					2	3															

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										15
Out										15

MODIFICATION TITLE: ADDITIONAL AIRCRAFT #1 (OSIP 34-99)MODELS OF SYSTEM AFFECTED: P-3 Special ProjectsTYPE MODIFICATION Retrofit

DESCRIPTION/JUSTIFICATION:

This requirement is to provide an additional special project aircraft that can be used to maintain force structure while other mission aircraft are being replaced or upgraded.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The current inventory is four mission aircraft. Periods of maintenance and major modifications typically reduced inventory to three or less available for CINC's tasking. This additional fifth mission aircraft would allow for four aircraft to be available for CINC tasking at all times. Special Projects aircraft are directly tasked by JCS, operating as a L Density High-Demand asset under Global Military Force Policy. An additional special project mission aircraft is the number 2 priority of the FY99 Special Projects Operational Advisory Board.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits					1	3.5															1	3.5
Installation Kits N/R						1.0																1.0
Installation Equipment					1	25.3															1	25.3
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support						1.4																1.4
Interim Contractor Support																						
Installation Cost					1	9.8															1	9.8
TOTAL PROCUREMENT					2	41.0															2	41.0

Notes:

1. Totals do not add due to roundin
2. Asterisk indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3 Special Projects MODIFICATION TITLE: Additional Aircraft #1

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Modification

ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1998: FY 1999: 9/00 FY 2000: FY 2001:

DELIVERY DATE: FY 1998: FY 1999: 01/02 FY 2000: FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (1) kits					1	9.8															1	
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					1	9.8															1	

Installation Schedule

	FY 1997 & PRIOR	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																		1							
Out																								1	

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										1
Out										1

MODIFICATION TITLE: ADDITIONAL AIRCRAFT #2 (OSIP 22-00)MODELS OF SYSTEM AFFECTED: P-3 Special ProjectsTYPE MODIFICATION Retrofit

DESCRIPTION/JUSTIFICATION:

This requirement is to provide an additional special project aircraft that can be used to maintain force structure while other mission aircraft are being replaced or upgraded. This effort also includes sustainment/readiness funding.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The current inventory is four mission aircraft. Periods of maintenance and major modifications typically reduced inventory to three or less available for CINC's tasking. This additional fifth mission aircraft would allow for four aircraft to be available for CINC tasking at all times. Special Projects aircraft are directly tasked by JCS, operating as a L Density High-Demand asset under Global Military Force Policy. An additional special project mission aircraft is the number 2 priority of the FY99 Special Projects Operational Advisory Board.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits							1	4.0													1	4.0
Installation Kits N/R								1.6														1.6
Installation Equipment							1	29.9													1	29.9
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support								1.4														1.4
Interim Contractor Support																						
Installation Cost							1	11.2													1	11.2
TOTAL PROCUREMENT							2	48.1													2	48.1

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3 Special Projects MODIFICATION TITLE: Additional Aircraft #2

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Modification

ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: 9/00 FY 2001: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: 01/02 FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (1) kits							1	11.2													1	11.2
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL								11.2													1	11.2

Installation Schedule

	FY 1997 & PRIOR	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																		1							
Out																								1	

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										1
Out										1

CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE S-3 Series Modifications					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY												
COST (In Millions)	1092.6		52.2	53.5	81.1	79.1	57.9	46.8	24.3	25.3	18.5	1,531.2
<p>This line item funds modifications to S-3 aircraft. The S-3B is a carrier based, all weather, high wing, high subsonic, twin engine, multi-mission aircraft capable of Anti-Surface Warfare (ASUW) operations and tanking. The overall goal of the modifications budgeted in FY2001 is to continue the UHF/VHF communications improvement and the Co-Processor Memory Unit efforts; and to upgrade critical avionics, and critical structures within the aircraft. Total Active Inventory (TAI) is 112. The S-3B will reach end of service in 2015. The specific modifications budgeted and programmed are:</p>												
(TOA, \$ in Millions)												
<u>OSIP No.</u>	<u>Description</u>	<u>Prior Years</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Complete</u>	<u>Total</u>
109-87	Block Upgrade I (S-3A)	991.0	1.3									992.3
39-94	UHF/VHF Comm. Impr. Prog.	15.7	4.3	6.9	22.6	16.9	27.5	25.1	9.9	1.0	9.3	139.1
12-95	Critical Structures	8.2	11.7	10.0	8.8	12.4	9.8	6.6	4.2	2.5		74.3
13-95	Global Positioning System	11.5	6.3	2.7	0.2							20.7
20-95	Critical Avionics Upgrade	58.6	19.1	27.6	40.5	42.7	15.2	12.0	10.0	21.3	3.9	250.9
4-96	Co-Processor Memory Unit	7.5	9.5	6.3	9.0	7.1	5.4	3.1	0.3	0.4	5.3	53.9
TOTAL		1092.6	52.2	53.5	81.1	79.1	57.9	46.8	24.3	25.3	18.5	1531.2
Totals may vary due to rounding												

CLASSIFICATION:

DD Form 2454, JUN 86

UNCLASSIFIED

Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITLE: <u>S-3 Block Upgrade I (OSIP 109-87)</u>	
MODELS OF SYSTEM AFFECTED: <u>S-3A</u>	TYPE MODIFICATION: <u>Operational Improvement</u>
<p>DESCRIPTION/JUSTIFICATION:</p> <p>Weapon System Improvement Program (WSIP): The WSIP is a modification program designed to improve the mission system effectiveness of the carrier based S-3A to meet current and projected threats. The modification includes incorporation of the advanced signal processor, increased sonobuoy receiver and reference system capabilities, an improved tape recorder, inverse synthetic aperture radar (ISAR), electronics support measures (ESM) improvements, HARPOON missile and chaff/flare/expendable jammer dispensers.</p> <p>Display Generator Unit (DGU): The DGU (CV-2806/ASA-82) of the tactical display system in the S-3A aircraft is unreliable and is becoming unsupportable due to obsolescence. The new design uses fewer components, has reduced power consumption requiring less cooling and is more reliable.</p> <p>Inter-Communication System (ICS) Communication Control Group: The ICS Communication Control Group (CCG) presently installed in the S-3A has consistently been unreliable resulting in a high percentage of operationally degraded aircraft. These sets of equipment will be replaced by an ICS communications control group of new design. This new set features newer technology large scale integration and microprocessor technology.</p> <p>Off Line On Top Position Indicator (OTPI): The S-3 presently uses a derivative of the on-line sonobuoy reference system (SRS) which has a mean time between failure (MTBF) of 125 hours and is susceptible to two different single point failure modes. The addition of this modification (which has a 1,100-hour MTBF in P-3C) will significantly contribute to ASW mission capability and improve full mission capable (FMC) rates by 3%.</p> <p>General Purpose Digital Computer (GPDC) Memory Stack Replacement: Mated wire film memory stacks in the GPDC experienced an increased failure due to copper chloride corrosion. In addition, the original GPDC memory capacity degraded the S-3's operational growth capability and compatibility with advanced sonobuoys and processors. Each of these problems is resolved by a form, fit, and function replacement memory which is not susceptible to corrosion and provides high reliability and additional memory capacity to meet future capability requirements.</p>	
<p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:</p> <p>S-3A Weapon System Improvement Program (Redesignated S-3B): Department of the Navy systems and acquisition review council Milestone IIB review occurred 24 February 1981. The Navy decision coordination paper, WO489-AS revision 4, was approved by the Office of the Secretary of Defense on 25 May 1988. The test and evaluation master plan, NO. 149-1 revision 3, was approved by the Office of the Secretary of Defense on 29 August 1989. Research, Development, Test and Evaluation, Navy (RDT&E,N) program element number 64217N applies. Major milestones include the development testing (DT-IIA) (December 1984), DT-IIB (January 1985), operational testing (OT-IIA) (February-March 1985), milestone IIIA approval for limited production (ALP), granted in July 1985, technical evaluation (DT-IIID) (November 1985-April 1986), DT-IIIE (April 1987-November 1987), and operational evaluation (OPEVAL) (OT-IIB) (December 1987-March 1988). Milestone IIIB approval for limited production (ALP) for FY 1987 was granted in April 1987. Milestone IIIC approval for full production (AFP) was granted June 1988. The S-3B INSURV final phase DT III testing was conducted from December 1988 to May 1989. FOT&E (OT-IIIA) was completed in November 1989. The final report was submitted in July 1990.</p> <p>Display Generator Unit (DGU): Navy testing was completed in the first quarter of FY 1985. AFP was not required. Delivery of production units began in May 1987. Procurement has been completed.</p> <p>ICS Communications Control Group: An Aeronautical Equipment Reliability Maintainability Improvement Program (AERMIP) for development of the new communication control group was managed by the Naval Air Development Center, Warminster, PA. ALP was granted in October 1987. OPEVAL was completed 6 Nov 1992. AFP was granted 17 March 1993. RDT&E,N program element number 25633N and project number W1041 apply.</p> <p>Off Line On Top Position Indicator (OPTI): Development was completed for the Australian Air Force's P-3C aircraft by Hazeltine Corporation using the AN/ARR-78 99-channel receiver and a new control panel for sonobuoy location. This system applies directly to S-3B configuration changes which incorporate the AN/ARR-78. AFP was not required.</p> <p>General Purpose Digital Computer (GPDC) Memory Stack Replacement: Two advanced development models were developed and validated. These units were transferred to the Canadian Armed Forces for further refinement into engineering development models which incorporate U.S. Navy requirements. U.S. Navy development testing was completed in April 1987. The test kits operated a total of 3,000 hours (300 flights) without failure. AFP was not required. Delivery of production units began in March 1988. Procurement has been completed.</p>	

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: S-3 Block Upgrade I (OSIP 109-87)

MODELS OF SYSTEM AFFECTED: S-3A

TYPE MODIFICATION Operational Improvement

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Airframe	116	48.3																			116	48.3
Antenna	121	4.1																			121	4.1
PDP/OL-320	83	47.2																			83	47.2
GPDC/AYK-10	24	1.4																			24	1.4
SRS/ARS-4	24	3.5																			24	3.5
ATR/AQH-7	24	3.8																			24	3.8
Radar/APS-137	24	16.9																			24	16.9
ESM/ALR-76	24	24.8																			24	24.8
CHAFF/ALE-39	24	.5																			24	.5
HACLCS/AWG-19	2	.4																			2	.4
UDG	146	11.2																			146	11.2
OPTI	120	.6																			120	.6
CCG	116	1.4																			116	1.4
Installation Kits N/R		85.6																				85.6
Installation Equipment																						
PDP/OL-320	38	19.7																			38	19.7
GPDC/AYK-10	97	5.2																			97	5.2
SRS/ARS-4	97	12.0																			97	12.0
ATR-AQH-7	97	9.5																			97	9.5
RADAR/APS-137	97	64.1																			97	64.1
ESM/ALR-76	97	78.4																			97	78.4
CHAFF/ALE-39	121	2.9																			121	2.9

Exhibit P-3a

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: S-3 Block Upgrade I (OSIP 109-87)

MODELS OF SYSTEM AFFECTED: S-3A

TYPE MODIFICATION Operational Improvement

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
HACLCS/AWG-19	119	12.4																			119	12.4
APS-UYS-1	121	63.7																			121	63.7
SRX-ARR-78	121	44.6																			121	44.6
DMU	36	6.7																			36	6.7
Install Support		6.4																				6.4
UDG	116	16.5																			116	16.5
OTPI	120	.5																			120	.5
GPDC	146	13.3																			146	13.3
CCG	116	32.0																			116	32.0
Installation Equipment N/R		19.8																				19.8
Engineering Change Orders		.1																				.1
Data		18.1																				18.1
Training Equipment		116.6																				116.6
Support Equipment		108.8																				108.8
ILS		9.8																				9.8
Other Support		73.1		.4																		73.5
Interim Contractor Support																						
Installation Cost	82	7.2	34	.9																	116	8.0
TOTAL PROCUREMENT	2,387	991.0		1.3																	2,387	992.3

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3A - CCG/OTPIMODIFICATION TITLE: S-3 Block Upgrade I (OSIP 109-87) CCG/OTPI

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Field Mod Team

ADMINISTRATIVE LEADTIME: _____ Months

PRODUCTION LEADTIME: _____ Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (116) kits	82	1.7	34	.7																	116	2.4
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	82	1.7	34	.7																	116	2.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	82	18	12	4																					
Out	82	18	12	4																					

	FY 2004				FY 2005				TO COMPLETE	TOTAL
	1	2	3	4	1	2	3	4		
In										116
Out										116

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Ultra High Frequency (UHF) / Very High Frequency (VHF) Communications Improvement Program (CIP) (OSIP 39-94)MODELS OF SYSTEM AFFECTED: S-3BTYPE MODIFICATION: Operational Improvement

DESCRIPTION/JUSTIFICATION:

The S-3B has an operational requirement for reliable UHF and VHF communications. The current UHF radio (AN/ARC-156) suffers from serious reliability and obsolescence problems, and lacks the internal intermodulation protection required for proper operation in today's operational environment. The AN/ARC-187 UHF radio to be installed is a derivative of the AN/ARC-164 which is presently utilized by the Air Force and would correct the above mentioned deficiencies. The installation also permits compatibility with the JCS requirements for UHF Satellite Communications (SATCOM) users. The radio is common with the P-3C aircraft and this commonality will significantly reduce logistic support requirements. The S-3B does not currently have a VHF radio, which is required by International Air Traffic Control regulations and represents a potential safety flight problem when operating in international airspace and with foreign air fields. The AN/ARC-182 is the Navy's standard VHF radio for tactical aircraft and provides the VHF capability required. One AN/ARC-182 radio will be installed in 112 S-3B aircraft. This modification is validated in ORD 393-88-95, approved 23 Mar 95. S-3B ECP#423 constitutes the CIP integration, and Communication Control Group (CCG) modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-182 has Approval for Full Production (AFP), and will be verified in the S-3B with trial kit installation (TKI). The AN/ARC-187 installation was verified in the S-3B with Trial Kit Installation. Milestone III Approval for Full Production for S-3B Communications Improvement Program was granted on 23 June 1995.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
PROTOTYPE/TKI	2	1.8																			2	1.8
CIP A Kit					5	1.5	22	6.6	14	3.5	30	7.7	24	6.3	7	1.9			8	2.2	110	29.6
Installation Kits N/R		9.5		1.2		.5																11.2
Installation Equipment																						
ARC-182 - R/T & Mount	2	**			5	*	22	*	14	*	30	*	24	*	7	*			8	*	112	.1
MD-1324 Modem	2	**	6	.2	9	.3	12	.5	14	.6	30	1.3	24	1.0	7	.3			8	.4	112	4.7
Crypto Fill Panels	8	**	4	*	12	*	5	*	14	.1	30	.1	24	.1	7	*			8	*	112	.3
CCG Modification	2	**			5	1.5	22	5.9	14	3.9	30	8.7	24	6.8	7	2.0			8	2.4	112	31.3
ARC-187 - B Kit (2 per A/C)	2	.4			5	0.9	22	3.7	14	2.4	30	5.2	24	4.3	7	1.3			8	1.5	112	19.6
Installation Equipment N/R																						
Engineering Change Orders																						
Data		.3		.2		.1				.4												1.0
Training Equipment		.1		.2		.5	3	2.8	2	.6	4	1.4									9	5.6
Support Equipment								.7		.3												1.0
ILS		1.3				.2		.2		.2				.1								1.9
Other Support		1.7		2.2		1.3		1.3		1.0		.6		1.0		.5				1.3		10.9
Interim Contractor Support																						
Installation Cost	1	.6	1	.2			5	1.0	25	3.8	16	2.5	34	5.5	24	3.8	7	1.0	8	1.4	121	19.8
TOTAL PROCUREMENT	18	15.7	10	4.3	41	6.9	108	22.6	86	16.9	184	27.5	144	25.1	42	9.9		1.0	48	9.3	681	139.1

Notes:

1. Totals do not add due to rounding

2. Asterick indicates amount less than 51K

** AN/ARC-182 radios to be obtained from F/A-18 or other aircraft installing AN/ARC-210 radios.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3BMODIFICATION TITLE: UHF/VHF Communications Improvement Program (OSIP 39-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field TeamADMINISTRATIVE LEADTIME: 6 MonthsPRODUCTION LEADTIME: 12 MonthsCONTRACT DATES: FY 1998: FY 1999: 7/99 FY 2000: 3/00 FY 2001: 3/01DELIVERY DATE: FY 1998: FY 1999: 6/00 FY 2000: 3/01 FY 2001: 3/02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (2) kits	1	.6	1	.2																	2	.8
FY 1999 (5) kits							5	1.0													5	1.0
FY 2000 (25) kits									25	3.8											25	3.8
FY 2001 (16) kits											16	2.5									16	2.5
FY 2002 (34) kits													34	5.5							34	5.5
FY 2003 (24) kits															24	3.8					24	3.8
FY 2004 (7) kits																	7	1.0			7	1.0
FY 2005 () kits																						
To Complete (8) kits																			8	1.4	8	1.4
TOTAL **	1	.6	1	.2			5	1.0	25	3.8	16	2.5	34	5.5	24	3.8	7	1.0	8	1.4	121	19.8

** Includes trainer install(s).

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1			1								3	2	6	6	6	7	4	4	4	4	9	9	8	8
Out	1			1								3	2	6	6	6	7	4	4	4	4	9	9	8	8

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	6	6	6	6	4	3			8	121
Out	6	6	6	6	4	3			8	121

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Critical Structures (OSIP 12-95)MODELS OF SYSTEM AFFECTED: S-3BTYPE MODIFICATION: SLEP

DESCRIPTION/JUSTIFICATION:

S-3 aircraft are included in the Naval Aviation Plan to support the carrier Battle Group through CY 2015. The S-3A aircraft was procured from 1972 to 1976 (1960's design/avionics technology), based on ORD #0927-AS dated 25 Mar 77. The S-3B Weapons System Improvement Program, which modified the S-3A to an S-3B, focused primarily on weapon system upgrades for mission enhancement and did not upgrade the critical airframe safety of flight avionics systems. This upgrade is a series of modifications required in order to ensure effective, safely flyable aircraft through the year 2015. Specifically, the Critical Structures Upgrade modification includes replacement of the windshield temperature controller and the following airframe components: wingfold rib, horizontal stabilizer hinge fitting, flight control elements, fuel flow/bleed air select vent valves, counterweights, and flap track ribs. The Service Life Assessment Program (SLAP) (FY98) will certify that the fatigue and operational loads of the aircraft are accurately represented in the full scale reaction frame.

PAINTLESS REPLACEMENT APPLIQUE: S-3B Paintless Applique serves as a replacement top coat for the current primer/paint combination. Applique film (flouropalmer sheets with pressure sensitive adhesives) have the potential to replace paint as a top coat, reduce hazardous waste and save the Navy considerably in operability, sustainability and maintenance costs over the S-3 life cycle.

RECURRING KIT STATUS: The Critical Structures Airframe kit (consisting of horizontal stabilizer hinge fitting - ECP AL-808, counterweights - ECP AL-802, flap track ribs - ECP AL-796, and flow/bleed air select vent valves ECP AL-789), the Flight Control Elements kit, - ECP-AL807-R1 and the Inner Wing Empennage Kit for all 112 S-3B aircraft. The Wingfold Rib kit is required for 17 of the S-3B aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Replacement of the airframe components/windshield temperature controller does not require any development. Non-recurring engineering for all five components were completed in FY 1995. First production buy began in FY 1996 and installs commenced in FY 1997. The non-recurring engineering will include design and integration efforts of Critical Structures airframe components.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E - H2452						22.5		14.2		4.6												41.3
PROCUREMENT																						
Installation Kits																						
Critical Structures Airframe	20	.5	20	.7	20	.7	24	.9	24	1.0	4	.2									112	4.0
Flight Controls Elements	26	.9	13	.4	13	.4	13	.4	13	.4	13	.4	13	.4	8	.3					112	3.6
Inner Wing Empennage kit					20	.3	20	.3	20	.3	20	.3	20	.3	12	.1					112	1.5
Paintless Applique							19	.6	19	.6	19	.6	19	.6	19	.6	17	.5			112	3.5
Wingfold Rib							8	2.1	5	1.3	4	1.2									17	4.6
Installation Kits N/R		3.7		7.8		5.1																16.6
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		.2																				.2
Training Equipment		.1		*		*		*														.2
Support Equipment																						
ILS		.1																				.1
Other Support		1.0		1.0		1.0		.9		.5		.5		.6		.9		.5				6.8
Interim Contractor Support																						
Installation Cost	10	1.7	10	1.8	20	2.5	20	3.6	24	8.3	24	6.6	4	4.8		2.3		1.7			112	33.2
TOTAL PROCUREMENT	46	8.2	33	11.7	53	10.0	84	8.8	81	12.4	60	9.8	52	6.6	39	4.2	17	2.5			465	74.3

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3BMODIFICATION TITLE: Critical Structures (OSIP 12-95)
Inner Wing Empennage Kit

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Field Mod TeamADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 9 MonthsCONTRACT DATES: FY 1999: 1/99FY 2000: 1/00FY 2001: 1/01DELIVERY DATE: FY 1999: 10/99FY 2000: 10/00FY 2001: 10/01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (20) kits							20	.2													20	.2
FY 2000 (20) kits									20	.3											20	.3
FY 2001 (20) kits											20	.3									20	.3
FY 2002 (20) kits													20	.3							20	.3
FY 2003 (20) kits															20	.3					20	.3
FY 2004 (12) kits																	12	.2			12	.2
FY 2005 () kits																						
To Complete () kits																						
TOTAL							20	.2	20	.3	20	.3	20	.3	20	.3	12	.2			112	1.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Out											5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	5	5	5	5	3	3	3	3		112
Out	5	5	5	5	5	3	3	3	3	112

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3BMODIFICATION TITLE: Critical Structures (OSIP 12-95)
Flight Control Elements

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Field Mod TeamADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 9 MonthsCONTRACT DATES: FY 1998: 1/98 FY 1999: 1/99 FY 2000: 1/00 FY 2001: 1/01DELIVERY DATE: FY 1998: 10/98 FY 1999: 10/99 FY 2000: 10/00 FY 2001: 10/01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (39) kits	13	1.0	13	1.1	13	1.1															39	3.2
FY 1999 (13) kits							13	1.1													13	1.1
FY 2000 (13) kits									13	1.1											13	1.1
FY 2001 (13) kits											13	1.1									13	1.1
FY 2002 (13) kits													13	1.0							13	1.0
FY 2003 (13) kits															13	1.1					13	1.1
FY 2004 (8) kits																	8	.6			8	.6
FY 2005 () kits																						
To Complete () kits																						
TOTAL	13	1.0	13	1.1	13	1.1	13	1.1	13	1.1	13	1.1	13	1.0	13	1.1	8	.6			112	9.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	13	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4
Out		2	5	6	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4	3
	FY 2004				FY 2005				To Complete	TOTAL															
	1	2	3	4	1	2	3	4																	
In	3	3	3	4	2	3	3			112															
Out	3	3	4	3	3	3	3	3	6	112															

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3BMODIFICATION TITLE: Critical Structures (OSIP 12-95)
Wingfold Rib

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Field Mod TeamADMINISTRATIVE LEADTIME: 7 MonthsPRODUCTION LEADTIME: 9 MonthsCONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: 4/00 FY 2001: 4/01DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: 1/01 FY 2001: 1/02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (8) kits									8	4.4											8	4.4
FY 2001 (5) kits											5	2.7									5	2.7
FY 2002 (4) kits													4	2.3							4	2.3
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL									8	4.4	5	2.7	4	2.3							17	9.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In															2	3	3		2	2	1		2	1	1
Out																		2	3	3		2	2	1	

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										17
Out	2	1	1							17

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3BMODIFICATION TITLE: Critical Structures (OSIP 12-95)
Critical Structures Airframe Kit

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod TeamADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 9 MonthsCONTRACT DATES: FY 1998: 1/98 FY 1999: 1/99 FY 2000: 1/00 FY 2001: 1/01DELIVERY DATE: FY 1998: 10/98 FY 1999: 10/99 FY 2000: 10/00 FY 2001: 10/01

(\$ in Millions)

Cost:	Prior years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (40) kits	10	.7	10	.7	20	1.4															40	2.7
FY 1999 (20) kits							20	1.5													20	1.5
FY 2000 (24) kits									24	1.7											24	1.7
FY 2001 (24) kits											24	1.7									24	1.7
FY 2002 (4) kits													4	.3							4	.3
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	10	.7	10	.7	20	1.4	20	1.5	24	1.7	24	1.7	4	.3							112	7.9

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	10	2	2	3	3	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	2	2		
Out	5	5	2	2	3	3	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	2	2	

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										112
Out										112

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3B

MODIFICATION TITLE: Critical Structures (OSIP 12-95)
Paintless Applique

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES:

FY 1998:

FY 1999:

FY 2000: 1/00

FY 2001: 1/01

DELIVERY DATE:

FY 1998:

FY 1999:

FY 2000: 3/00

FY 2001: 3/01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (19) kits							19	.8													19	.8
FY 2001 (19) kits									19	.8											19	.8
FY 2002 (19) kits											19	.8									19	.8
FY 2003 (19) kits													19	.8							19	.8
FY 2004 (19) kits															19	.8					19	.8
FY 2005 (17) kits																	17	.7			17	.7
To Complete () kits																						
TOTAL							19	.8	19	.8	19	.8	19	.8	19	.8	17	.7			112	4.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											7	6	6		7	6	6		7	6	6		7	6	6
Out											7	6	6		7	6	6		7	6	6		7	6	6

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In		7	6	6		6	6	5		112
Out		7	6	6		6	6	5		112

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 13-95)MODELS OF SYSTEM AFFECTED: S-3BTYPE MODIFICATION: Operational Improvement / Safety

DESCRIPTION/JUSTIFICATION:

The S-3B aircraft is currently using Tactical Air Navigation (TACAN) / Inertial Navigation Systems (INS) as a navigation aid. Chief of Naval Operations (CNO) has mandated GPS as a replacement for TACAN. FAA certifiable GPS/Radio Navigation (RNAV) capability is required for the S-3B. GPS modification will provide increased operational capability and mission effectiveness by providing precise navigation position information to the flight crew for Anti-Surface Warfare (ASUW) prosecutions, and on scene tactical coordination and turnover with other ASUW platforms. Trainer procurement is for Weapons Systems Trainer (WST) / Position Trainer Complex Module (PTCM) and maintenance trainer A kits; B kits will be procured under Common Avionics GPS OSIP 72-88. This effort was originally approved under Operational Requirements Document #OR-927-AS dated 27 Mar 77. The ECP for this effort is LMAS 53-421R1 which will modify 115 aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The GPS (B Kit) has completed TECHEVAL/OPEVAL. This OSIP is for installation of the user equipment in the S-3B. TKI completed May 1996. Installation D/T TECHEVAL for the S-3B was completed June 1996. Production contract was awarded July 1996. Follow-on contract for Lots 3 & 4 was awarded June 98.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	58	3.0	57	3.6																** 115	6.5	
Installation Kits N/R																						
Installation Equipment																						
GFE(AN/ARN 153)	58	1.9	41	1.2	14	.4														113	3.5	
LAB (Includes A & B Kits)		.1																				.1
Installation Equipment N/R																						
Engineering Change Orders																						
Data		.7																				.7
Training Equipment		2.3																				2.3
Support Equipment		*																				*
ILS		.8																				.8
Other Support		.9		.8		.8		.2														2.7
Interim Contractor Support																						
Installation Cost	42	1.7	16	.8	55	1.6															113	4.1
TOTAL PROCUREMENT	116	11.5	98	6.3	14	2.7		.2													230	20.7

Notes:

1. Totals do not add due to rounding. ** Purchased 115 kits. Loss of two (2) aircraft allow for installation of only 113 kits.
2. Asterisk indicates amount less than 51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3BMODIFICATION TITLE: Global Positioning System (GPS) (OSIP 13-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Field Mod TeamADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 12 MonthsCONTRACT DATES: FY 1998: 6/98 FY 1999: _____ FY 2000: _____DELIVERY DATE: FY 1998: 1/99 FY 1999: _____ FY 2000: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (113) kits	42	1.7	16	.8	55	1.6															113	4.1
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	42	1.7	16	.8	55	1.6															113	4.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	42	4	4	4	4	14	14	14	13																
Out	26	9	7	4	4	4	4	14	14	14	13														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										113
Out										113

Exhibit P-3a	INDIVIDUAL MODIFICATION	
MODIFICATION TITLE: <u>S-3 Critical Avionics Upgrade (OSIP 20-95)</u>		
MODELS OF SYSTEM AFFECTED: <u>S-3B</u>	TYPE MODIFICATION: <u>Operational Improvement/Obsolescence</u>	
<p>DESCRIPTION/JUSTIFICATION:</p> <p>This program replaces the Automatic Flight Control Systems (AFCS), Inertial Navigation Systems (INS), Flight Instruments, Mission Displays, and Armament Control Systems (ARMCOS) which have become significant obsolescence/non-supportability degraders for the S-3B aircraft. Modification of these critical avionics systems will ensure respective system operation and availability for the current and projected (2015) service life of the airframe. Trainer procurement is to incorporate all four systems into the S-3B Fleet Weapons Systems Trainers (WST), Position Trainer Complex Modules (PTCM) and Maintenance Trainers. The requirement for these modifications is described in Operational Requirements Document (ORD) 408-88-95 dated 13 July 95.</p> <p>DIGITAL FLIGHT DATA COMPUTER (DFDC) (Engineering Change Proposal (ECP) 426): The Flight Data Computer (FDC) is the central computing component of the Automatic Flight Control System (AFCS). The present obsolete FDC is subject to failure modes which have been demonstrated to cause uncommanded roll input to the flight control system. This modification will be installed in all of the existing 112 S-3B aircraft.</p> <p>CARRIER AIRCRAFT INERTIAL NAVIGATION SYSTEM (CAINS II); EMBEDDED Global POSITIONING SYSTEM (GPS) INERTIAL (EGI); ELECTRONIC FLIGHT INSTRUMENTS (EFI) (ECP 427): This is a replacement program for the S-3B navigation, heading and attitude system, and associated flight instruments. The existing system has become increasingly non-supportable due to parts obsolescence and material condition of the chassis and internal wiring. Replacement avionics hardware consists of a CAINS II, an EGI, four new EFIs for the cockpit, and 1553B digital Navigation Interface Unit (NIU) which connects the flight instruments to the navigation system bus and mission computer. The CAINS II and the EGI provide the two required heading platform stabilization sources necessary for embarked operations or night/instrument flight. This modification will be installed in all of the existing 112 S-3B aircraft.</p> <p>STORES MANAGEMENT SYSTEM (SMS)(ECP XXX (not yet assigned)) : This modification provides an obsolescence upgrade of the Armament Control Panel, Bomb Bay/Wing Decoders and wiring that comprise the current S-3 Armament Control System (ARMCOS) and a NDI digital Stores Management System (SMS) including small circular error probability weapon. An operable SMS is required for loading, carriage and/or jettison of any internal or external stores including the Aerial Refueling Store, torpedoes, and/or Harpoon. This modification will be installed in all of the existing 112 S-3B aircraft.</p> <p>DISPLAYS (ECP XXX (not yet assigned)) : This program replaces obsolete/non-supportable Cathode Ray Tube (CRT) Multi-Purpose Displays (MPDs). Current mission displays are adversely impacting readiness due to poor reliability, high failure rate, and the inability to repair or replace inoperable CRT's. These displays are critical to all missions due to the integration of all mission subsystems, including navigation, through the General Purpose Digital Computer System. Replacement will incorporate NDI display systems. This modification will be installed in 65 of the existing 112 S-3B aircraft.</p>		
<p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:</p> <p>Milestone III decision for Critical Avionics Upgrade approved Oct 1995. DFDC hardware CDR held SEP 96, software CDR held MAY 97, EDM testing commenced DEC 97. CAINS/EGI/EFI system CDR held OCT 97, prototype install commenced July 1998. RFP for SMS released May 1998. Displays CDR commenced June 1998.</p>		

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: S-3 Critical Avionics Upgrade (OSIP 20-95)

MODELS OF SYSTEM AFFECTED: S-3B

TYPE MODIFICATION: Operational Improvement/Obsolescence

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits ***																						
SMS (ARMCOS)							1	***	6	.3	20	1.2	21	1.3	18	1.2	46	3.2			112	7.2
CAINS/EFI/NIU	7 ***	1.0	17	2.9	25	4.5	33	5.9	30	5.5											112	19.7
Installation Kits N/R		12.3						3.7		2.6												18.5
Installation Equipment																						
DFDC	23 ***	2.1	12	1.0	18	1.7	18	1.6	41	3.9											112	10.3
CAINS	7 ***	2.0	17	6.9	25	10.4	33	13.9	30	12.8											112	45.9
SMS (ARMCOS)							1	***	6	2.0	20	6.6	21	7.0	18	6.1	46	15.7			112	37.3
DISPLAYS							2	.2	7	.8	11	1.2	8	.9	13	1.5	12	1.5	12	1.7	65	7.9
Installation Equipment N/R		23.0						5.8		3.6												32.3
Engineering Change Orders																						
Data				.3		.2				.5												.9
Training Equipment		.2		.4		2.2		2.2		4.0		2.3		1.8								13.1
Support Equipment																						
ILS		1.3				.1		.1		.5		.3										2.2
Other Support		17.0		7.6		7.5		4.7		3.6		.6		.1		.1		.2		.2		41.5
Interim Contractor Support																						
Installation Cost				*		1.1		2.4		2.8		3.0		0.9		1.0		0.8		2.1		14.2
TOTAL PROCUREMENT	27	58.6	46	19.1	72	27.6	88	40.5	120	42.7	51	15.2	50	12.0	49	10.0	104	21.3	12	3.9	625	250.9

Notes:

1. Totals do not add due to rounding
 2. Asterisk indicates amount less than 51K
- *** One (1) Prototype (CAINS, DFDC, ARMCOS) and one (1) Trial Kit Installation (TKI) (CAINS, DFDC) procured via NRE will be installed in fleet aircraft bringing total aircraft to 112.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3BMODIFICATION TITLE: S-3 Critical Avionics Upgrade (OSIP 20-95) SMS (ARMCOS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod TeamADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 12 MonthsCONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: 1/01DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: 1/02

(\$ in millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (1) kits									1	.1 ***											1	.1
FY 2001 (6) kits											6	.5									6	.5
FY 2002 (20) kits													20	.9							20	.9
FY 2003 (21) kits															21	1.0					21	1.0
FY 2004 (18) kits																	18	.8			18	.8
FY 2005 (46) kits																			46	2.1	46	2.1
To Complete () kits																						
TOTAL									1	.1 ***	6	.5	20	.9	21	1.0	18	.8	46	2.1	112	5.3

*** Includes one (1) Prototype

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003					
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In															1					2	2	2		5	5	5	5
Out															1					2	2	2		5	5	5	5

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	5	6	5	5	5	5	5	3	46	112
Out	5	6	5	5	5	5	5	3	46	112

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3BMODIFICATION TITLE: S-3 Critical Avionics Upgrade (OSIP 20-95) CAINS II

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: FY 97 prototype/TKI was procured as contractor "turn-key". FY 98 and out are Contractor Field Mod Team (Airframe Block).ADMINISTRATIVE LEADTIME: 4 MonthsPRODUCTION LEADTIME: 12 MonthsCONTRACT DATES: FY 1998: 1/98 FY 1999: 1/99 FY 2000: 1/00 FY 2001: 1/01DELIVERY DATE: FY 1998: 1/99 FY 1999: 1/00 FY 2000: 1/01 FY 2001: 1/02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (24) kits	2	***			17	1.1	5	.3													24	1.5
FY 1999 (25) kits							25	2.1													25	2.1
FY 2000 (33) kits									33	2.6											33	2.6
FY 2001 (30) kits											30	2.6									30	2.6
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	2	***			17	1.1	30	2.4	33	2.6	30	2.6									112	8.9

*** Includes one (1) Prototype and one (1) TKI.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003						
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	2							5	12	5	8	8	9		11	11	11		11	10	9							
Out	2								5	12	5	8	8	9		11	11	11	11		11	10	9	9				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										112
Out										112

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Co-Processor Memory Unit (OSIP 04-96)MODELS OF SYSTEM AFFECTED: S-3BTYPE MODIFICATION: Operational Improvement

DESCRIPTION/JUSTIFICATION:

The Co-Processor Memory Unit (CPMU) replaces the S-3B MMU-576 Drum Memory Storage (DMS) Unit, the OL-230 Post and Display Processor (PDP) and the AN/AYK-10 General Purpose Digital Computer (GPDC). The Operational Requirements Document (ORD) # OR-927-AS was approved 27 Mar 77. The reliability, maintainability, and obsolescence of the DMS, PDP, and GPDC has degraded to levels which significantly hinder the ability to meet aircraft tactical mission requirements. The CPMU fully emulates the DMS and replaces 5 WRA's, resulting in significant space/weight savings. CPMU incorporates an open architecture design as a foundation for future processor growth. CPMU will host a mission program written in ADA software language (RDT&E funded). Trainer procurement is for both Weapons System Trainers (WST) / Position Trainer Complex Module (PTCM) and maintenance trainers A and B kits. The ECP for this effort is Loral AYK-23-002 which modifies 65 systems.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Co-Processor Memory Unit (CPMU) program was initiated as a joint U.S. Navy/Canadian industrial base development effort in 1991. A competitive development contract was awarded in FY 1992. Installation of EDM was completed in April 1995. Approval for LRIP was received in June 1996. LRIP production contract was awarded in June 1996. TKI commenced August 1998. Operational Testing was successfully completed in March 1999. Milestone III decision was approved in June 1999. First fleet installs began in June 1999.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E (H0489)		20.0		2.1		8.0		5.1		0.5		0.4		0.4		0.4		0.4				37.4
PROCUREMENT																						
Installation Kits	5	.1	12	.2	10	.2	17	.3	7	.2	7	.2	2	.1					5	.2	65	1.4
Installation Kits N/R		.1																				.1
Installation Equipment	5	3.1	12	5.0	10	4.7	17	7.7	7	3.7	7	3.7	2	1.2					5	3.0	65	33.0
Installation Equipment N/R		2.4																				2.4
Engineering Change Orders																						
Data		.1		.3																		.3
Training Equipment	1	.5		.1				.2	4	2.2	1	.5							3	1.6	9	5.1
Support Equipment		.1																				.1
ILS		.1		.2		.2		.1		.1		.1		.2		*						1.0
Other Support		1.1		2.7		1.2		.5		.3		.2		1.4		.1		.4				7.8
Interim Contractor Support																						
Installation Cost			3	.1	5	.1	7	.2	23	.7	19	.7	7	.3	2	.1			8	.5	74	2.7
TOTAL PROCUREMENT	11	7.5	27	9.5	25	6.3	41	9.0	41	7.1	34	5.4	11	3.1	2	.3		.4	21	5.3	213	53.9

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3BMODIFICATION TITLE: Co-Processor Memory Unit (OSIP 04-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Field Mod TeamADMINISTRATIVE LEADTIME: 11 MonthsPRODUCTION LEADTIME: 16 MonthsCONTRACT DATES: FY 1999: 8/99FY 2000: 8/00FY 2001: 8/01DELIVERY DATE: FY 1999: 12/00FY 2000: 12/01FY 2001: 12/01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (18) kits			3	.1	5	.1	7	.2	3	*											18	.4
FY 1999 (10) kits									10	.3											10	.3
FY 2000 (17) kits									10	.3	7	.3									17	.8
FY 2001 (11) kits											11	.3									11	.3
FY 2002 (8) kits											1	.1	7	.3							8	.4
FY 2003 (2) kits															2	.1					2	.1
FY 2004 () kits																						
FY 2005 () kits																						
To Complete (8) kits																			8	.5	8	.5
TOTAL **			3	.1	5	.1	7	.2	23	.7	19	.7	7	.3	2	.1			8	.5	74	2.7

* Indicates amount less than 51K.

** Includes fleet end items for training.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In				1	2	1		2	2	3	4			7	6	3	7	4	3	6	6		2	2	3
Out				1	2	1		2	2	3	4			7	6	3	7	4	3	6	6		2	2	3

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	2								8	74
Out	2								8	74

<div style="display: flex; justify-content: space-between; align-items: center;"> <div> CLASSIFICATION: <div style="border: 1px solid black; padding: 5px; font-weight: bold; font-size: 1.2em;">UNCLASSIFIED</div> </div> </div>												
BUDGET ITEM JUSTIFICATION SHEET P-40										Date: February 2000		
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE E-2C Series Modification				
Program Element for Code B Items:								Other Related Program Elements				
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY												
COST (In Millions)	735.7		44.0	80.9	75.9	18.5	26.2	11.6	16.8	13.7	1,305.8	2,329.1
<p> This line item funds modifications to E-2C aircraft. The E-2C is an all weather, carrier based, airborne early warning and command and control aircraft. It extends task force defense perimeters by providing early warning of approaching enemy units and by vectoring interceptors into attack position. Additionally, the HAWKEYE provides strike control, radar surveillance, search and rescue assistance, communications relay and automatic tactical data exchange. The E-2C aircraft design service life is 10,000 flight hours with an average service life remaining through FY 2015. In future years, the E-2C will be a critical element of the Navy's Cooperative Engagement Capability (CEC). To realize efficiencies in cost and scheduling, the HAWKEYE 2000 OSIPs (SATCOM, Vapor Cycle, Mission Computer Upgrade (MCU) and CEC) were consolidated into one engineering change proposal (ECP-418). The efficiencies realized with consolidating HAWKEYE 2000 modifications under ECP-418 were reflected in the FY 1998 budget. Subsequent to establishment of ECP-418, it has become exceedingly difficult to coordinate kit and install quantities, contract dates, and training requirements across the four ECP-418 OSIPs. Beginning in FY 1999 the ECP-418 OSIPs were combined into one new OSIP, 19-99 Block Upgrade III. Consolidation of the OSIPs provides management a concise picture of cost and schedule requirements to modify and field HAWKEYE 2000 aircraft. As the result of today's technological advancements, the Commercial-Off-The-Shelf (COTS) hardware/software of the MCU will change or become obsolete in the very near future. The Technology Insertion OSIP (5-01) beginning in FY 2001 will support capability for assembly, validation and configuration management of COTS hardware/software of the MCU. The specific modifications budgeted and programmed are: </p>												
(TOA, \$ in Millions)												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
121-87	Structural Enhancements	273.8	1.9		1.2	0.9	0.8	0.7	2.9		4.8	287.0
74-88	Block Upgrade II	320.0	21.8	32.1	6.7	2.3	11.2	1.9	5.3	4.9	92.9	499.2
87-88	Outer Wing Panels	86.9	8.2	13.7	8.5	5.9	4.0				240.3	367.5
21-95	Satellite Communication	47.1	2.6									49.7
4-97	Replacement Computer	7.8	6.7									14.5
1-98	Aircrew Safety & Survival		2.9	4.1	2.9							9.9
19-99	Block Upgrade III			31.0	56.7	2.3	2.3				893.3	985.5
5-01	Technology Insertion					7.1	7.9	9.0	8.6	8.8	74.4	115.8
TOTAL		735.7	44.0	80.9	75.9	18.5	26.2	11.6	16.8	13.7	1,305.8	2,329.1
Note: Totals do not add due to rounding												

Exhibit P-3a		INDIVIDUAL MODIFICATION																				
MODIFICATION TITLE:		Structural Enhancements (OSIP 121-87)																				
MODELS OF SYSTEM AFFECTED:		E-2C						TYPE MODIFICATION: Safety														
DESCRIPTION/JUSTIFICATION:																						
<p>Analysis and fatigue test results disclosed that the wing center sections, the nose landing gear brace trunnion fitting, upper longeron splice, main beam lock fitting, lower wing skin fold actuator support fitting, rear beam lower cover splice, and rear beam lower cover skin in E-2C aircraft (A/C) produced prior to A/C #96 would fail due to fatigue prior to 10,000 flight hours. In order to extend the operational life of A/C produced prior to A/C #96, it is necessary to modify these areas. This modification installs an enhanced wing center section into thirty-four (34) aircraft and provides for modification of the drag brace trunnion, longeron splice, main beam lock fitting, lower wing skin fold actuator support fitting, rear beam lower cover splice and skin.</p> <p>The Navy Inventory Control Point (NAVICP) projects an E-2C propeller shortage in FY 2000. As a result, NAVICP approved a Logistics Engineering Change Proposal (LECP) to procure a new eight-blade propeller for the E-2C program office. The LECP funds the non-recurring and the procurement of 187 propellers only. The E-2C program office is responsible for funding the ground/flight test and overall system integration between Northrop Grumman (airframe), Allison (engine) and Hamilton-Standard (propellers). The ground/flight test and prototype propeller kits will be funded with APN-1 funds starting in FY99. Retrofit propeller kits and install will be funded with APN-5 funds beginning in FY 2000 for seventy-five (75) Group II aircraft.</p>																						
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:																						
Developmental Component Testing began in November 1998 and is ongoing. Development flight tests for the propeller are scheduled to begin November 2000.																						
FINANCIAL PLAN (TOA, \$ in Millions):																						
	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 367R1-WCS Enhance.	28	138.6													2	0.5			4	1.0	34	140.2
Installation Kits N/R		14.3																				14.3
Installation Equipment																						
ECP XXX-Propellers							25	0.4	25	0.4	25	0.4									75	1.2
Vibration Suppression																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.8																				0.8
Training Equipment		*																				*
Support Equipment		1.4																				1.4
ILS																						
ECP XXX-Propellers				0.4				0.8		0.5		0.1		0.4		0.4				0.2		2.7
Other Support		26.2																				26.2
ECP XXX-Propellers				1.5																		1.5
Interim Contractor Support																						
Installation Cost																						
ECP 367R1-WCS Enhance.	28	92.5													2	1.7			4	3.6	34	97.9
ECP XXX-Propellers										25	0.3	25	0.3	25	0.3						75	0.9
TOTAL PROCUREMENT		273.8		1.9				1.2		0.9		0.8		0.7		2.9				4.8		286.9

Exhibit P-3a

Note: Totals do not add due to rounding.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C **MODIFICATION TITLE:** Structural Enhancements (OSIP 121-87)

INSTALLATION INFORMATION: This installation information is for ECP 367R1-WCS Enhancement Only.

METHOD OF IMPLEMENTATION: Contractor (Turn-Key) Drive-In Modification (DIM).

ADMINISTRATIVE LEADTIME: 2 Months **PRODUCTION LEADTIME:** 10 Months

CONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/A

DELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (28) kits	28	92.5																			28	92.5
FY 1999 (0) kits																						
FY 2000 (0) kits																						
FY 2001 (0) kits																						
FY 2002 (0) kits																						
FY 2003 (0) kits																						
FY 2004 (2) kits															2	1.7					2	1.7
FY 2005 (0) kits																						
To Complete (4) kits																			4	3.6	4	3.6
TOTAL	28	92.5													2	1.7			4	3.6	34	97.9

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	28																								
Out	28																								

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In				2					4	34
Out					2				4	34

Exhibit P-3a**MODELS OF SYSTEMS AFFECTED:** E-2C**MODIFICATION TITLE:** Structural Enhancements (OSIP 121-87)**INSTALLATION INFORMATION:** This installation information is for the Propellers Only.**METHOD OF IMPLEMENTATION:** Depot Field Mod Team.**ADMINISTRATIVE LEADTIME:** 4 Months**PRODUCTION LEADTIME:** 24 Months**CONTRACT DATES:** FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/A**DELIVERY DATE:** FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (0) kits																						
FY 1999 (0) kits																						
FY 2000 (25) kits											25	0.3									25	0.3
FY 2001 (25) kits													25	0.3							25	0.3
FY 2002 (25) kits															25	0.3					25	0.3
FY 2003 (0) kits																						
FY 2004 (0) kits																						
FY 2005 (0) kits																						
To Complete (0) kits																						
TOTAL											25	0.3	25	0.3	25	0.3					75	0.9

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																			10	10	5		10	10	5
Out																			10	10	5		10	10	10

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In		10	10	5						75
Out	5		10	10	5					75

Exhibit P-3a		INDIVIDUAL MODIFICATION	
MODIFICATION TITLE: <u>Block Upgrade II (OSIP 74-88)</u>			
MODELS OF SYSTEM AFFECTED: <u>E-2C</u>		TYPE MODIFICATION: <u>Mission Performance Enhancement</u>	
DESCRIPTION/JUSTIFICATION: <p>ECP 400 - "Group I to Group II Configuration" consists of the following items.</p> <ol style="list-style-type: none"> Radar Update: The jamming threat to a radar (electronic counter-countermeasures) can be minimized by current antenna technology and/or receiver/modifications. The total radiation aperture control (TRAC-A) antenna (the first major redesign in the 20 year history of the E-2 series) is now in production as the initial step in the evolution of countering a growing threat. These changes will augment the reduced sidelobes of the antenna pattern (increase detection in a jamming environment), provide automated cues to the operators on the best radar mode for different jamming levels and provide directional information of the jamming source for intercept with battle group fighters. Production incorporation was in the last FY86 aircraft (A122). The second phase in the update of the E-2C's radar system is designed to significantly extend it's detection range, add automatic environmental processing of targets and eliminate detection losses. Building on existing components of the radar system, one weapons replaceable assembly (WRA) is replaced and eight out of forty WRA's are modified. A new tactical software program is a greatly improved man-machine interface capable of providing the battle group commander in-depth defense throughout the outer-air-battle environment. Production incorporation was in the second FY 1989 aircraft (A/C #140). Joint Tactical Information Distribution System (JTIDS): The JTIDS is a communication/navigation/identification system which will provide secure, jam resistant communication (both digital and voice tactical data), identification, and a relative navigation function for aircraft and ships. The JTIDS identification and positional data will be integrated into the E-2C central computer program for correlation with data received by on-board sensors. Production incorporation of partial provisions was in the last FY86 aircraft (A122). Production incorporation of final provisions was in the second FY89 aircraft (A140). Enhanced High Speed Processor (EHSP): E-2C radar and passive detection systems are currently restricted from fully exploiting their available surveillance volume due to computer processing limitations. The EHSP weapons replaceable assembly replaces two memory modules and their associated power supply in the central processor (CP) cabinet. The EHSP increases the CP track capacity four-fold through the dense packaging of current computer technology. This capability is the foundation of extending the radar range in the Radar Update Group II. Production incorporation of the EHSP was in aircraft A134. NAVSTAR Global Positioning System (GPS): The NAVSTAR GPS is a space based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. Production incorporation was in the first FY90 aircraft A145. GPS was an out-of-production installation in aircraft A140 thru A144. Enhance Displays: The enhanced displays will permit full utilization of all processed tracks using the latest state-of-the-art in man-machine interface. Production incorporation was in the first FY90 aircraft (A145). Enhanced displays were an out-of-production installation in aircraft A140 thru A144. Improved Identification Friend or Foe (IFF) System: Incorporation of the improved IFF will provide an increased capability to discriminate between friendly forces and potentially hostile target tracks and make room for installation of JTIDS boxes. Production incorporation in USN E-2C was in the second FY89 aircraft (A140). <p>ECP 403 - "Navigation Upgrade" consists of the following items:</p> <ol style="list-style-type: none"> Standard Automatic Flight Control System (SAFCS) Computer: The AN/ASW-15 automatic flight control system (AFCS) presently installed is an obsolete design using 1950's technology. The performance of this system has never provided satisfactory stability augmentation, which remains as an outstanding deficiency from the original flight test program. Incorporation of a standardized AFCS computer is planned as the first step in the solution to the problem. This unit will be developed and built using modern design methods and will provide improved system performance in all areas. Laser-Gyro Carrier Aircraft Inertial Navigation Systems (CAINS) ASN-139: The ASN-139 is being developed to reduce system costs by application of laser gyro technology to replace current electromechanical sensors in CAINS. Reliability will be increased and alignment time reduced. A five-to-one reduction in operation and support costs, compared with the presently installed ASN-92 CAINS, is expected. <p>There are seventy-five (75) aircraft in the inventory. Sixteen (16) aircraft will be modified from a Group I to Group II configuration and thirty-seven (37) aircraft will receive the Navigation Upgrade modification.</p> <p>ORD Number 31-20 dated 23 Jan 66.</p>			
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: <p>Kits are being procured and installed on all applicable aircraft.</p>			

FINANCIAL PLAN (TOA, \$ in Millions):																						
	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
RDT&E		0.1																			0.1	
PROCUREMENT																						
Installation Kits																						
ECP 400-Grp I to Grp II:	13	93.7																3	26.8	16	120.5	
ECP 403-NAV Upgrade:	10	9.1				3	2.7							3	2.9	3	3.0	18	18.1	37	35.9	
ECP 402R1-Eng. Oil Warning	13	1.1																		13	1.1	
ECP 246R1-Eng. Fire Wall	78	0.1																		78	0.1	
ECP 410-SATCOM	4	0.3																		4	0.3	
Installation Kits N/R		47.6																			47.6	
Installation Equipment																						
ECP 400-Grp I to Grp II:	13	29.5																3	3.5	16	33.0	
ECP 403-NAV Upgrade	10	5.5				3	1.2							3	1.3	3	1.3	18	7.8	37	17.1	
Installation Equipment N/R		1.0																			1.0	
Engineering Change Orders																						
Data		14.7		0.5															16.3		31.5	
Training Equipment		31.4		7.6	2	16.5					5	8.8								7	64.3	
Support Equipment		19.6		11.7		9.6															40.9	
ILS		11.5					1.4												0.1		12.9	
Other Support		14.6		2.0		2.2	1.4	2.3	1.0	1.9	0.6	0.6						1.5			28.2	
Interim Contractor Support																						
Installation Cost																						
ECP 400-Grp I to Grp II	12	34.5			1	3.2												3	5.5	16	43.3	
ECP 403-NAV Upgrade	9	6.0			1	0.5				3	1.4			1	0.5			24	13.1	38	21.5	
TOTAL PROCUREMENT		320.1		21.8		32.1	6.7	2.3	11.2	1.9	5.3	4.9					92.9				499.3	

Exhibit P-3a

Note: Totals do not add due to rounding.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C **MODIFICATION TITLE:** Block Upgrade II (OSIP 74-88)

INSTALLATION INFORMATION: This installation information is for the Group I to Group II Update Only (ECP# 400).

METHOD OF IMPLEMENTATION: Contractor (Turn-Key) Drive-In Modification (DIM) for kit procurements through FY 1996. Contractor DIM for kit procurements FY 1997 and subsequent.

ADMINISTRATIVE LEADTIME: 4 Months **PRODUCTION LEADTIME:** 24 Months

CONTRACT DATES: FY 1998: N/A FY 1999: 01/99 FY 2000: N/A FY 2001: N/A

DELIVERY DATE: FY 1998: N/A FY 1999: 01/01 FY 2000: N/A FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (13) kits	12	34.5					1	3.2															13	37.7
FY 1999 (0) kits																								
FY 2000 (0) kits																								
FY 2001 (0) kits																								
FY 2002 (0) kits																								
FY 2003 (0) kits																								
FY 2004 (0) kits																								
FY 2005 (0) kits																								
To Complete (3) kits																					3	5.5	3	5.5
TOTAL	12	34.5					1	3.2													3	5.5	16	43.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	12						1																		
Out	11	1						1																	

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									3	16
Out									3	16

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C **MODIFICATION TITLE:** Block Upgrade II (OSIP 74-88)

INSTALLATION INFORMATION: This installation information is for the Navigation Update Only (ECP# 403).

METHOD OF IMPLEMENTATION: Contractor (Turn-Key) Drive-In Modification (DIM) for kit procurements through FY 1996. Contractor DIM for kit procurements FY 1998 and subsequent.

ADMINISTRATIVE LEADTIME: 4 Months **PRODUCTION LEADTIME:** 24 Months

CONTRACT DATES: FY 1998: 01/98 FY 1999: 01/99 FY 2000: 1/00 FY 2001: N/A

DELIVERY DATE: FY 1998: 01/00 FY 1999: 01/01 FY 2000: 1/02 FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (10) kits	9	6.0			1	0.5															10	6.5
FY 1999 (0) kits																						
FY 2000 (3) kits											3	1.4									3	1.4
FY 2001 (0) kits																						
FY 2002 (1) kits *															1	0.5					1	0.5
FY 2003 (0) kits																						
FY 2004 (3) kits																			3	1.6	3	1.6
FY 2005 (3) kits																			3	1.6	3	1.6
To Complete (18) kits																			18	9.8	18	9.8
TOTAL	9	6.0			1	0.5					3	1.4			*1	0.5			24	13.1	38	21.5

* Includes ISMT Trainer installation.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	9							1											2	1					
Out	9								1											2	1				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In		*1							24	38
Out			*1						24	38

Exhibit P-3a		INDIVIDUAL MODIFICATION	
MODIFICATION TITLE:		<u>Outer Wing Panels (OSIP 87-88)</u>	
MODELS OF SYSTEM AFFECTED:		<u>E-2C</u>	TYPE MODIFICATION: <u>Safety</u>
DESCRIPTION/JUSTIFICATION:			
<p>The E-2C fatigue test and inspection of aircraft have identified fatigue stress cracks in outer wing panels (OWP) which would cause the loss of aircraft and resulting in injury or loss of personnel. The OWP's installed on the E-2C aircraft are flight hour limited as follows: OWP's installed on T56-A-425 configured aircraft are limited to 6,000 flight hours and OWP's installed on T56-A-427 configured aircraft are limited to 7,500 flight hours. Teardowns of fleet OWP's showed that overhaul of the OWP is neither technically practical nor cost effective. This modification develops and incorporates enhancements to the OWP which extends the aircraft service life thru FY 2015. There are seventy-five (75) aircraft in the inventory. Forty-seven (47) aircraft will be retrofitted with the redesigned OWP.</p> <p>The Program includes enhancements that improve operational capability such as replacement rotodomes, fuselage enhancements, and empennage enhancements as necessary.</p>			
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:			
<p>An updated design OWP's was installed on all new production aircraft delivered after April 1985. Earlier aircraft will be retrofitted with the newly designed OWP.</p>			

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 362R2C2-OWP	82	77.7																			82	77.7
ECP 378-Redesigned OWP			1	2.2	6	13.4	4	8.5	3	5.9	2	4.0							31	69.5	47	103.5
Fatigue Life Enhancement																			22	94.1	22	94.1
ECP 383R1C1-SDRS	108	0.6																			108	0.6
Attaching Hardware	5	1.4																			5	1.4
Installation Kits N/R		1.0		5.8																		6.8
Installation Equipment																						
ECP 383R1C1-SDRS		3.0																				3.0
ECP TBD-Rotodomes																			26	44.9	26	44.9
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.7																				1.7
Training Equipment																						
Support Equipment		0.9																				0.9
ILS																						
Other Support				0.1		0.3																0.4
Interim Contractor Support																						
Installation Cost																						
ECP 362R2C2-OWP	82	0.7																			82	0.7
ECP TBD-Redesigned OWP																						
Fatigue Life Enhancement																			22	15.8	22	15.8
ECP 383R1C1-SDRS																						
ECP TBD-Rotodomes																			26	15.8	26	15.8
TOTAL PROCUREMENT		86.9		8.2		13.7		8.5		5.9		4.0								240.3		367.5

Note: 1) Installation of the Redesigned OWP for FY98 thru "To Complete" Kits will be an "O" Level Installation.

2) Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Satellite Communications (SATCOM) (OSIP 21-95)

MODELS OF SYSTEM AFFECTED: E-2C

TYPE MODIFICATION: Readiness

DESCRIPTION/JUSTIFICATION:

By JCS directives, all components of the Armed Forces who have satellite communications must be able to communicate using the Demand Assign Multiple Access (DAMA) waveform and be capable of narrow band secure voice. To meet these requirements the E-2C program will integrate Mini-DAMA into the aircraft. The Mini-DAMA unit is a UHF, full duplex radio with four full duplex ports and eight half duplex baseboard input/output. It incorporates the UHF SATCOM, line of sight radio functions, 5 and 25 KHz DAMA waveforms and embedded OTCIXS II, KGV-11 (TRANSEC) and COMSEC module for orderwire encryption for both 5 and 25 KHz DAMA functions. The Mini-DAMA has growth provisions for secure voice (ANDVT), TADIX-A, KG-84A and SAFENET. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.

ORD Number 174-094-87 dated 12 Aug 87.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

PMW-156 is the sponsor of the Mini-DAMA. The Mini-DAMA equipment schedule projects the following milestones: Two Engineering Development Models (EDMs) in April 1993; five EDMs in September 1993; air integration's started in the 3rd quarter FY 1993 and ended in the 1st quarter FY 1995; formal testing was conducted from February 1996 through August 1996. Production deliveries started in June 1996.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 410R3-AFT EQUIP. (AEC)	34	6.3	6	1.5																	40	7.8
Installation Kits N/R		20.6																				20.6
Installation Equipment																						
ECP 410R3-AFT EQUIP. (AEC)	32	12.3	4	1.1																	36	13.4
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.8																				0.8
Training Equipment																						
Support Equipment																						
ILS		0.4																				0.4
Other Support		5.2																				5.2
Interim Contractor Support																						
Installation Cost																						
ECP 410R3-AFT EQUIP. (AEC)	34	1.6																			34	1.6
TOTAL PROCUREMENT		47.1		2.6																		49.7

- Notes: 1) Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.
 2) The six (6) kits in FY 98 will be installed by the Contractor, as negotiated through consideration.
 3) Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a**INDIVIDUAL MODIFICATION****MODIFICATION TITLE:** Replacement Computer (OSIP 4-97)**MODELS OF SYSTEM AFFECTED:** E-2C**TYPE MODIFICATION:** Readiness**DESCRIPTION/JUSTIFICATION:**

The L-304 central data processing computer uses inputs from onboard sensors, data links, and a library of stored data to present a symbolic representation of the tactical situation to the operators. Data expansion resulting from Update Development Program II has pushed the computer capability to it's ultimate limit, preventing utilization of improved target detection which could be achieved by emerging radar technology, infrared search and track, and SATCOM. All of these technologies are needed for execution of the E-2C battle management mission and for cooperative engagement operations. This OSIP funds retrofit of a replacement computer based on proven advances in computer technology and developed under the RDT&E Program Element cited below. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.

ORD Number 371-88-94 dated 20 Sep 94.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Engineering and Manufacturing Development (E&MD), System Design Review, Software Specification Review and start of fabrication of pre-production computers commenced in the first quarter FY 1995. Pre-production mission computers will be delivered in FY 1996. Development and Operational Testing will continue through FY2000.

FINANCIAL PLAN (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		188.9		39.0		9.8		18.4														256.1
PROCUREMENT																						
Installation Kits																						
ECP 417-E&MD	5	6.6																			5	6.6
Installation Kits N/R																						
Installation Equipment	5	1.1	3	0.6																	8	1.6
Installation Equipment N/R																						
Engineering Change Orders																						
Data		*																				*
Training Equipment				0.7																		0.7
Support Equipment				0.4																		0.4
ILS																						
Other Support		0.1		0.3																		0.4
Interim Contractor Support																						
Installation Cost																						
ECP 417-E&MD			5	4.7																	5	4.7
TOTAL PROCUREMENT		7.8		6.7																		14.5

- Notes: 1) Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.
 2) Totals do not add due to rounding.
 3) * Indicates a dollar amount less than \$50,000.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C **MODIFICATION TITLE:** Replacement Computer (OSIP 4-97)

INSTALLATION INFORMATION: _____

METHOD OF IMPLEMENTATION: Contractor modification line.

ADMINISTRATIVE LEADTIME: 3 Months **PRODUCTION LEADTIME:** 10 Months

CONTRACT DATES: FY 1998: 12/97 FY 1999: N/A FY 2000: N/A FY 2001: N/A

DELIVERY DATE: FY 1998: 10/98 FY 1999: N/A FY 2000: N/A FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2003		FY 2003		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (5) kits			5	4.7																	5	4.7
FY 1999 (*) kits																						
FY 2000 (*) kits																						
FY 2001 (*) kits																						
FY 2002 (*) kits																						
FY 2003 (*) kits																						
FY 2004 (*) kits																						
FY 2005 (*) kits																						
To Complete (*) kits																						
TOTAL			5	4.7																	5	4.7

* Note: Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		2	2	1																					
Out						1	1	2	1																

	FY 2004								To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										5
Out										5

Exhibit P-3a**INDIVIDUAL MODIFICATION****MODIFICATION TITLE:** Aircrew Safety and Survival (OSIP 1-98)**MODELS OF SYSTEM AFFECTED:** E-2C**TYPE MODIFICATION:** Safety**DESCRIPTION/JUSTIFICATION:**

The Parachute Survival Ensemble (PSE) replaces the A/P22P-11 Crew Backpack Assembly, currently installed on the E-2C aircraft. During scheduled inspections the A/P22P-11 Crew Backpack Assembly has high component rejection rates. This has occurred since it's introduction in 1988. Recent 1996 inspections at NAS Norfolk produced 90% rejection rates. It has poor supply support, greater than 43 days turnaround times at NAS Miramar. During live jump tests in June 1994 the parachute had a catastrophic failure due to it's canopy first deployment design. As a result of these factors, the confidence of the crew members and the maintainers has declined dramatically. There is a requirement per input from OAG, NAWC-WD and the fleet for the PSE. The PSE provides increased safety, longer shelf life of components, elimination of the torso harness, single point release and Full Face Mask compatible.

There are seventy-five (75) aircraft in the inventory. Fifty-five (55) aircraft will be retrofitted with this ECP.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The prototype contract was signed in December 1995. Delivery of the prototype was in March 1996. Fleet evaluations were successfully conducted from March 1996/May 1997. The final qualification began in January 1998 and was completed December 1998.

FINANCIAL PLAN (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 16336R3-PSE KIT			75	1.4	160	4.0	120	2.2													355	7.6
Installation Kits N/R				0.7																		0.7
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.3																		0.3
Training Equipment				0.1															*			0.1
Support Equipment				*															*			0.0
ILS				0.1				*											*			0.2
Other Support				0.2		0.1		0.6											*			1.0
Interim Contractor Support																						
Installation Cost																						
TOTAL PROCUREMENT				2.9		4.1		2.9													355	9.9

- Note: 1) A total of 275 PSE's are required. 1 kit of 5 PSE assemblies = 1 aircraft. 'O' Level installation.
 2) Totals do not add due to rounding.
 3) * Indicates a dollar value is less than \$50,000.

Exhibit P-3a

Exhibit P-3a		INDIVIDUAL MODIFICATION	
MODIFICATION TITLE:		Block Upgrade III (OSIP 19-99)	
MODELS OF SYSTEM AFFECTED:		E-2C	TYPE MODIFICATION: Mission Performance Enhancement
DESCRIPTION/JUSTIFICATION:			
<p>The HAWKEYE 2000 OSIPs (Satellite Communications 21-95, Vapor Cycle 22-95, Mission Computer Upgrade 4-97, and Cooperative Engagement Capability 12-97) were consolidated into one engineering change proposal (ECP-418) to realize efficiencies in cost and scheduling. The efficiencies realized with consolidating HAWKEYE 2000 modifications under ECP-418 were reflected in the FY 1997 budget. Subsequent to establishment of ECP-418, it has become exceedingly difficult to coordinate kit and install quantities, contract dates, and training requirements across the four ECP-418 OSIPs. Beginning in FY 1999 the ECP-418 OSIPs were combined into one new OSIP, 19-99 Block Upgrade III. Consolidation of the OSIPs provides management a concise picture of cost and schedule requirements to modify and field HAWKEYE 2000 aircraft. The funding in FY99 thru FY00 for training equipment is to support the HAWKEYE 2000 production aircraft being delivered in FY02. The funding will procure one (1) Weapon System trainer, one (1) CEC Antenna trainer, one (1) Maintenance trainer design and one (1) Computer Based Trainer (CBT) update. There are seventy-five (75) total aircraft in the inventory. Fifty-three (53) aircraft will be retrofitted with this ECP.</p> <p>Satellite Communication (SATCOM): By JCS directives, all components of the Armed Forces who have satellite communications must be able to communicate using the Demand Assign Multiple Access (DAMA) waveform and be capable of narrow band secure voice. To meet these requirements the E-2C program will integrate Mini-DAMA into the aircraft. The Mini-DAMA unit is a UHF, full duplex radio with four full duplex ports and eight half duplex baseboard input/output. It incorporates the UHF SATCOM, line of sight radio functions, 5 and 25 KHz DAMA waveforms and embedded OTCIXS II, KGV-11 (TRANSEC) and COMSEC module for oderwire encryption for both 5 and 25 KHz DAMA functions. The Mini-DAMA has growth provisions for secure voice (ANDVT), TADIX-A, KG-84A and SAFENET. Previously OSIP# 21-95. ORD Number 174-094-87 dated 12 Aug 87. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.</p> <p>Vapor Cycle: The vapor cycle installed in the E-2C uses CFC-114 coolant. The Montreal Protocol calls for termination of the CFC production after 1995. Efforts to find an acceptable substitute for use in the vapor cycle currently installed in the E-2C have been successful. ECP 418 involves the re-design of the current 12-ton vapor cycle so that it will provide adequate cooling and environmentally acceptable coolant necessary to operate the Hawkeye 2000 systems. Previously OSIP# 22-95. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.</p> <p>Mission Computer Upgrade (MCU): The L-304 central data processing computer uses inputs from onboard sensors, data links, and a library of stored data to present a symbolic representation of the tactical situation to the operators. Data expansion resulting from Update Development Program II has pushed the computer capability to it's ultimate limit, preventing utilization of improved target detection which could be achieved by emerging radar technology, infrared search and track, and SATCOM. All of these technologies are needed for execution of the E-2C battle management mission and for cooperative engagement operations. This OSIP funds retrofit of a replacement computer based on proven advances in computer technology and developed under the RDT&E Program Element No. 0204152N. As part of the MCU suite, the three (3) existing Cathode Ray Tube displays will be replaced with Advance Control Indicator Set (ACIS) workstations incorporating flat panel displays, and connected via a local area network. The layout of the ACIS workstation controls has been heavily influenced by Fleet inputs. Additionally, based on Commercial Off The Shelf (COTS) technology, the ACIS workstations will streamline Integrated Logistics Support and facilitate future upgrades. Previously OSIP# 4-97. ORD Number 371-88-94 dated 20 Sep 94. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.</p> <p>Cooperative Engagement Capability (CEC): The Navy has developed the capability to share sensor data through a network and perform the targeting process using sensors installed in remote platforms to augment the target position information on individual ships. The E-2C radar and passive detection systems provide vital target information over an increased surveillance area for greater situational awareness and provides early warning of distant targets. This program identifies the costs associated with integrating CEC into 53 E-2Cs and developing the support structure necessary to successfully deploy the system. Previously OSIP# 12-97. ORD Number 388-86-95 dated 4 Jan 95. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.</p>			
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:			
<p>SATCOM: PMW-156 is the sponsor on the Mini-DAMA. LRIP deliveries started in June 1996. Operational Assessment completed and production has resumed.</p> <p>Vapor Cycle: N/A.</p> <p>Mission Computer Upgrade (MCU): LRIP decision was granted in July 1997. OPEVAL is scheduled for FY 01. Full Rate Production is scheduled for FY 01.</p> <p>Cooperative Engagement Capability (CEC): PEO TAD(C) is the sponsor of Cooperative Engagement Capability.</p>			

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 418-Hawkeye 2000						0.5	1	8.8										52	293.3	53	302.6	
Installation Kits N/R																						
Installation Equipment																						
ECP 418-Hawkeye 2000							1	12.2										52	392.3	53	404.5	
Additional Install Equipment							4	21.9												4	21.9	
Engineering Change Orders																						
Data								0.9											7.3		8.2	
Training Equipment					1	21.6	1	9.8	1	2.3		2.3						3	33.3	6	69.3	
Support Equipment						0.9													9.9		10.9	
ILS						0.1													5.1		5.2	
Other Support						7.8													13.5		21.3	
Interim Contractor Support																						
Installation Cost																						
ECP 418-Hawkeye 2000							1	3.0										53	138.6	54	141.6	
TOTAL PROCUREMENT						31.0		56.7		2.3		2.3							893.3		985.5	

Notes: 1) Installation costs and quantities in To Complete include one (1) ISMT Trainer.
2) Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

E-2C

MODIFICATION TITLE:

Block Upgrade III (OSIP 19-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Contractor Drive-In Modification (annualized funding/2year lead-time).

ADMINISTRATIVE LEADTIME:

3 Months

PRODUCTION LEADTIME:

24 Months

CONTRACT DATES:

FY 1998:

N/A

FY 1999:

N/A

FY 2000:

N/A

FY 2001:

N/A

DELIVERY DATE:

FY 1998:

N/A

FY 1999:

N/A

FY 2000:

N/A

FY 2001:

N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (0) kits																						
FY 1999 (0) kits																						
FY 2000 (1) kits							1	3.0													1	3.0
FY 2001 (0) kits																						
FY 2002 (0) kits																						
FY 2003 (0) kits																						
FY 2004 (0) kits																						
FY 2005 (0) kits																						
To Complete (53) kits *																			*(53)	138.6	*(53)	138.6
TOTAL							1	3.0											53	138.6	54	141.6

* Note:

Includes one (1) ISMT trainer installation.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													1												
Out													1												

	FY 2003				FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In													53	54
Out													53	54

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Technology Insertion (OSIP 5-01)

MODELS OF SYSTEM AFFECTED: E-2C

TYPE MODIFICATION: Mission Performance Enhancemen

DESCRIPTION/JUSTIFICATION:

Commercial technology obsolescence drives hardware and software changes in an MCU-based fleet. As MCU squadrons standup, video boards, memory boards, CPU cards, and operating systems will change or become obsolete. The new configuration must be validated, integrated, and controlled. Funding is required to support capability for assembly, validation, and configuration management of Commercial Off-The-Shelf (COTS) hardware/software provided to MCU squadrons and updated on a 4-year technology insertion cycle.

There are seventy-five (75) aircraft in the inventory. Sixty-two (62) aircraft will be retrofitted with this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Hawkeye 2000 Program Support Activity (PSA) will insure software is upgraded, revised, and integrated so it functions with the versions of the COTS hardware and software delivered with the Mission Com and ACIS. The integration effort must start no less than one year prior to the delivery.

FINANCIAL PLAN (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS									0.5		0.5		0.5		0.5		0.5		4.5		7.0	
Other Support																						
ACIS CM & Upgrade Support									0.4		0.4		0.4		0.4		0.4		3.6		5.6	
CEC CM & Upgrade Support									0.4		0.4		0.4		0.4		0.4		3.6		5.6	
Software Tools									0.8		0.7		1.2		1.3		1.0		8.9		13.9	
Software Integration & CM									3.0		3.9		4.5		4.0		4.5		35.8		55.7	
Software Upgrades									2.0		2.0		2.0		2.0		2.0		18.0		28.0	
Interim Contractor Support																						
Installation Cost																						
TOTAL PROCUREMENT									7.1		7.9		9.0		8.6		8.8		74.4		115.8	

Note: Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE TRAINER AIRCRAFT MODIFICATION					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY		A										
COST (In Millions)	4.3	A	9.0	7.3	8.9	19.4	14.6	15.4	1.9	1.8	44.5	127.0
This line item funds modifications to a group of trainer aircraft which includes T-34C, CT-39, T-39,T44A, TH-57 AND TH-6. The training aircraft are described as follows: The T-34C is a single engine turbo-prop, multi-seat aircraft produced by Beech Aircraft used to simulate jet aircraft flight; the CT-39 is a dual engine multi-purpose light transport aircraft to be converted to trainer(T-39) usage; the T-44A is a twin engine, multi-seat aircraft produced by Beech Aircraft used to simulate operation of twin engine aircraft, specifically the P-3; the TH-57 and TH-6 are a single engine, multi-seat rotary wing aircraft used for helicopter training.												
The overall goal of the modifications is to maintain safe and reliable operation of the trainer aircraft through the timely installation of necessary changes. The specific modifications budgeted and programmed are:												
(TOA, \$ in Millions)												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
05-96	T-44 GPS	2.0	1.9	1.8	0.6	2.8						9.0
08-97	TH-57 GPS	0.7	3.9									4.6
13-97	T-34 GPS	1.3	1.8	1.6	2.1	4.1	0.7					11.7
24-97	CT-39 CONV TO T-39	0.2		3.9								5.4
20-98	T-34 AMARK EXTRACTION		0.1									0.1
02-00	TPS TH-6 COMMERCIALIZATION				0.2	0.3						0.5
03-00	TH-57 AUTOFAULT CHIP DETECTOR				1.0	0.9						1.9
04-00	T-44 FIRE WARING SYSTEM				0.3	0.3					0.3	0.8
05-00	UNFOTS UPGRADE				4.7	10.5	10.8	13.2				39.2
XX-01	T-39 WING REPLACEMENT					0.6	1.8	2.2	1.9	1.8	44.3	52.6
XX-02	TH-57 SEAT						1.3					1.3
Total		4.3	9.0	7.3	8.9	19.4	14.6	15.4	1.9	1.8	44.5	127.0
Note: Totals may not add due to rounding.												

Exhibit P-3a	Individual Modification																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
MODIFICATION TITLE: <u>Global Positioning System (GPS) (OSIP 05-96)</u>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
MODELS OF SYSTEMS AFFECTED: <u>T-44A</u>	TYPE MODIFICATION: <u>Safety</u>																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
<p>DESCRIPTION/JUSTIFICATION: The NAVSTAR GPS is a spaced-based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipment; i.e., Automatic Heading Reference System, Flight Management System, on selected applications. In the T-44A aircraft, this will be accomplished by integration of the Interstate Electronics 9002M Flight Management with Integral Global Positioning System Sensor and Collins AP-106 Autopilot and FD-112V Flight Director. This system will allow enroute and terminal GPS navigation as well as nonprecision GPS approach. Incorporation of GPS in the T-44A enhances mission capability as such operations were heretofore not possible in this aircraft. A waiver has been granted by ASD to procure commercial, Standard Positioning Service (SPS) GPS receivers. Therefore, this OSIP covers the complete kits (and installations) required for GPS capability using commercial SPS systems. Directed by ASSISTANT SECRETARY OF DEFENSE MEMORANDUM OF 1 DEC.94 SUBJ, COMMERCIAL GPS RECEIVER FOR T-44 AIRCRAFT. There are 55 T-44A in the inventory and all 55 will receive this modification. The T-44 GPS/FMS "A" Kit is comprised of components/software provisions such as wire connectors, antennas, mounting trays, circuit breakers, etc. The "B" Kit is comprised of the major equipment hardware such as "black boxes."</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The GPS system to be installed will be a commercially available, Non-Development Item (NDI).																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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<td>40</td><td>0.2</td> <td>36</td><td>0.2</td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td>110</td><td>0.6</td> </tr> <tr> <td>Total Procurement</td> <td></td><td>2.0</td> <td></td><td>1.9</td> <td></td><td>1.8</td> <td></td><td>0.6</td> <td></td><td>2.8</td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td>9.0</td> </tr> </table>		Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	RDT&E																					PROCUREMENT																					Installation Kits																					A Kit	11	0.7	11	0.7	13	0.8	2	0.1	18	1.3									55	3.6	B Kit	11	0.5	11	0.4	13	0.6	2	0.1	18	1.0									55	2.5	Installation Kits N/R		0.2																		0.2	Installation Equipment																					XXX Equip																					Installation Equipment N/R																					Engineering Change 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Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-44A

MODIFICATION TITLE:Global Positioning System (OSIP 05-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Forced Retrofit

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1998: Dec-97

FY 1999: Dec-98

FY 2000: Dec-99

FY 2001: Dec-00

DELIVERY DATE: FY 1998: Mar-98

FY 1999: Mar-99

FY 2000: Mar-00

FY 2001: Mar-01

(\$ in Millions)																			
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty
FY 1998 & PY (44) kits					34	0.2	10	0.1											44
FY 1999 (26) kits							26	0.1											26
FY 2000 (4) kits							4	0.0											4
FY 2001 (36) kits									36	0.2									36
FY 2002 () kits																			
FY 2003 () kits																			
FY 2004 () kits																			
FY 2005 () kits																			
To Complete () kits																			
TOTAL					34	0.2	40	0.2	36	0.2									110

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In						9	9	8	8	10	10	10	10			18	18								
Out							9	9	8	8	10	10	10	10			18	18							

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										110
Out										110

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 08-97)MODELS OF SYSTEMS AFFECTED: TH-57CTYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The NAVSTAR GPS is a spaced-based radio positioning and navigation system that will provide three-dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication systems equipment; i.e., Automatic Heading Reference System, Flight Management System, on selected applications. In the TH-57C aircraft, this will be accomplished by integration of the Allied Signal KLN-900 GPS. This system will allow enroute and terminal GPS navigation as well as nonprecision GPS approach. Incorporation of GPS in the TH-57C enhances mission capability as such operations were heretofore not possible in this aircraft. Directed by Assistant Secretary of Defense Memorandum of 1 Dec 94, Subj, Commercial GPS Receiver for TH-57C Aircraft refers. There are 74 TH-57C in the Inventory, of which all 74 will be modified. A waiver to use commercial, Standard Positioning Service (SPS) GPS receivers was approved for the TH-57. This OSIP describes a commercial SPS center console. Cost increases reflected in this OSIP are due to physical and electrical integration issues. The current integration is based on the Allied Signal KLN-900 GPS and replaces the ARC-159 UHF radio to free up console space. Other components are an annunciation switch set, a cooling fan, and a NAV Switching unit.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The GPS system to be installed will be a commercially available, Non-development Item (NDI).

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit	16	0.5	58	2.0																	74	2.6
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.2																		0.2
Training Equipment		0.2		1.4																		1.6
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support				0.1																		0.1
Installation Cost			74	0.2																	74	0.2
Total Procurement		0.7		3.9																		4.6

Notes:

1. Totals may not add due to rounding

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: TH-57 MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 08-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Forced Retrofit

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1998: Dec-97 FY 1999: N/A FY 2000: N/A FY 2001:

DELIVERY DATE: FY 1998: Jan-98 FY 1999: N/A FY 2000: N/A FY 2001:

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (74) kits			74	0.2																	74	0.2
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			74	0.2																	74	0.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		18	18	19	19																				
Out		18	18	19	19																				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										74
Out										74

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Global Positioning System (OSIP 13-97)MODELS OF SYSTEMS AFFECTED: T-34CTYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The NAVSTAR GPS is a spaced-based radio positioning and navigation system that will provide three-dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipment; i.e., Automatic Heading Reference System, Flight Management System, on selected applications. A waiver to use commercial, Standard Positioning Service (SPS) GPS receivers was approved by ASD. In the T-34 aircraft, this will be accomplished by integration of the Allied Signal KLN-900 GPS. This system will allow enroute and terminal GPS navigation as well as nonprecision GPS approach. Incorporation of GPS in the T-34 enhances mission capability as such operations were heretofore not possible in this aircraft. Directed by Assistant Secretary of Defense Memorandum of 1 Dec 94, Subj, Commercial GPS Receiver for T-34C Aircraft. There are 316 T-34s in the Active Inventory, all 316 will be modified.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The GPS system to be installed will be a commercially available, Non-Development Item (NDI).

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit			67	1.7	57	1.2	85	1.7	107	2.5											316	7.1
XXX Kit																						
Installation Kits N/R		0.4																				0.4
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data		0.1																				0.1
Training Equipment	14	0.8	2	0.1					6	0.7	9	0.5									31	2.1
Support Equipment																						
ILS																						
Other Support						0.1		0.1		0.2												0.3
Interim Contractor Support				0.0		0.1		0.1		0.1		0.2										0.6
Installation Cost					75	0.2	81	0.3	160	0.6											316	1.1
Total Procurement		1.3		1.8		1.6		2.1		4.1		0.7										11.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-34C

MODIFICATION TITLE:Global Positioning System (OSIP 13-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION Contractor Forced Retrofit

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1.0 Months

CONTRACT DATES: FY 1998: N/A

FY 1999: Nov-98

FY 2000: Nov-99

FY 2001: Nov-00

DELIVERY DATE: FY 1998: N/A

FY 1999: Dec-98

FY 2000: Dec-99

FY 2001: Dec-00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (67) kits					67	0.2															67	0.2
FY 1999 (57) kits					8	0.0	49	0.2													57	0.2
FY 2000 (85) kits							32	0.1	53	0.2											85	0.3
FY 2001 (107) kits									107	0.4											107	0.4
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					75	0.2	81	0.3	160	0.6											316	1.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							25	25	25		27	27	27		54	53	53								
Out								25	25	25		27	27	27		54	53	53							

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										316
Out										316

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: CT-39 Conversion to T-39 (OSIP 24-97)MODELS OF SYSTEMS AFFECTED: CT-39GTYPE MODIFICATION: Conversion/Safety

DESCRIPTION/JUSTIFICATION: This modification converts passenger/cargo CT-39G aircraft to T-39G training configuration. Conversion consist of an additional instructor station (folding seat), a student instrument panel in the rear of the aircraft, inter-communications (ICS) stations for instructor station and for student/instructor in rear of aircraft, and smoke/oxygen masks (safety equipment). Conversion of CT-39G aircraft is directed by Training System Requirements Documents of Nov 94. All 8 aircraft in the inventory will be modified. Kit costs reflect configuration differences between BuNos. This modification is being accomplished via an ECP from Avtel Services, Inc. An "A" kit consists of seat assembly (with cushion), smoke/oxygen masks, oxygen supply, instrument console, flight instruments, three ICS stations (controllers), amplifiers, wiring, mounting structure, and mounting hardware. A "B" kit consists of a stand alone refrigerant air conditioning system compressor, condenser, evaporator, accumulator, lines, ducting, and mounting hardware. A "C" kit consists of Recorder, engine/flight control sensors, voice recorder, wiring and mounting hardware.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Components of this block upgrade will be commercial-off-the-shelf (COTS) items with the exception of the training specific modifications. Limited integration effort is required. The major development effort for the upgrade is incorporation of mission specific training equipment.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit Instr Jumpseat, ICS			3	0.9	5	1.7															8	2.6
B Kit Air Conditioning			1	0.1	7	0.6															8	0.6
C Kit FDR/CVR			1	0.1	7	0.9															8	1.0
Installation Kits N/R				0.2																		0.2
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data																						
Training Equipment																						
Support Equipment																						
ILS		0.2																				0.2
Other Support						0.2																0.2
Interim Contractor Support																						
Installation Cost					24	0.6															24	0.6
Total Procurement		0.2		1.4		3.9																5.4

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CT-39G

MODIFICATION TITLE: CT-39 Conversion to T-39 (OSIP 24-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Aircraft Condition Inspection (ACI) - Contractor Installed Commercial Kits

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1998: Nov-97

FY 1999: Dec'90

FY 2000: N/A

FY 2001:

DELIVERY DATE: FY 1998: Dec-97

FY 1999: Jan-98

FY 2000: N/A

FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (5) kits					5	0.1															5	0.1
FY 1999 (19) kits					19	0.4															19	0.4
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					24	0.6															24	0.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							8	8	8																
Out							8	8	8																

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										24
Out										24

Exhibit P-3a		Individual Modification																				
MODIFICATION TITLE:		TPS TH-6 COMMERCIALIZATION (OSIP 02-00)																				
MODELS OF SYSTEMS AFFECTED:		TH-6B									TYPE MODIFICATION: Reliability/Maintainability											
DESCRIPTION/JUSTIFICATION: These United States Test Pilot School aircraft require configuration to commercial FAA standards for continued airworthiness. Four engines and four rotor heads require modification to commercial standards. The mod will extend the Time between Overhaul (TBO) of the engine to 3500 hours (from 1530 hours). The main rotor hub will extend its TBO to 2665 hours (from 1200) and improve aircraft performance by reducing helicopter vibration. The conversion to commercial standards was directed by NAVAIRSYSCOM 1.0 First Endorsement tlr dtd 21 Mar 96. Of the 6 aircraft in the TH-6B inventory, four require mod completion.																						
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: These are commercially available non-developmental items. Kits will be delivered to the Test Pilot School for installation by commercial contractor as organizational level maintenance.																						
FINANCIAL PLAN: (TOA, \$ in Millions)																						
	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Engine kit							1	0.1	3	0.3											4	0.4
Hub Kit							4	0.1													4	0.1
Installation Kits N/R																						
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost																						
Total Procurement								0.2		0.3												0.5

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Auto-Fault Chip Detector System (OSIP 03-00)MODELS OF SYSTEMS AFFECTED: TH-57TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The existing chip detection system remains silent when the critical wire that connects the detector to the control panel is broken. This could lead to extended flight in an unsafe aircraft. The Autofault System provides continuous monitoring of up to eleven crucial, one wire, warning systems. It immediately alerts the pilot when a broken wire occurs and allows the pilot to safely land before a problem can become critical. In addition, unnecessary engine removals for nuisance chips (due to normal wear) will be significantly reduced. There are 126 TH-57 in the Inventory, of which all 126 will be modified. A waiver to use commercial, Standard Positioning Service (SPS) GPS receivers was approved for the TH-57.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The GPS system to be installed will be a commercially available, Non-Development Item (NDI).

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit							56	0.5	70	0.6											126	1.0
XXX Kit																						
Installation Kits N/R								0.2														0.2
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data								*														*
Training Equipment																						
Support Equipment																						
ILS																						
Other Support								0.1		0.1												0.2
Interim Contractor Support								0.1		0.1												0.1
Installation Cost							56	0.1	70	0.2											126	0.3
Total Procurement								1.0		0.9												1.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: TH-57MODIFICATION TITLE: Auto-Fault Chip Detector System (OSIP 03-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Forced retrofit

ADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1998: N/AFY 1999: N/AFY 2000: Nov-99FY 2001: Jan-00

DELIVERY DATE: FY 1998: N/AFY 1999: N/AFY 2000: Dec-99FY 2001: Feb-00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (56) kits							56	0.1													56	0.1
FY 2001 (70) kits									70	0.2											70	0.2
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							56	0.1	70	0.2											126	0.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											18	19	19		23	23	24								
Out												18	19	19		23	23	24							
		FY 2004				FY 2005				To Complete		TOTAL													
		1	2	3	4	1	2	3	4																
In												126													
Out												126													

Exhibit P-3a	Individual Modification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
MODIFICATION TITLE: <u>Engine Fire Warning System (OSIP 04-00)</u>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
MODELS OF SYSTEMS AFFECTED: <u>T-44A</u>	TYPE MODIFICATION: <u>Safety</u>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
<p>DESCRIPTION/JUSTIFICATION: Over the past 5 ½ years, the T-44 has experienced approximately 83 false fire warnings with the current configuration optical flame detectors resulting in sortie aborts, decreased safety, and unnecessary maintenance actions. The Chief of Naval Air Training (CNATRA) requested in their letter 13127 Ser N42/02163 dated 14 Nov 96 that PMA-207 identify a reliable replacement engine fire warning system. The Original Equipment Manufacturer (OEM) recommended replacement system is the Wittaker Model 801-DHR Pneumatic Fire/Overheat Detector System.</p> <p>Safety of aircraft operation is the primary reason to replace the T-44 engine fire warning system. When the fire warning light is illuminated in flight, an emergency shutdown of the engine is initiated and a single engine landing must be made. False fire warnings increase the number of emergency engine shutdowns and single engine landings. False engine fire warnings also result in sortie aborts which degrade CNATRA's ability to meet T-44 Pilot Training Requirements (PTR). Each false warning costs an estimated \$2200 in troubleshooting and required maintenance. Numerous changes to maintenance and pre-flight procedures have been implemented to improve reliability and test and check engine flame detectors. However, these maintenance and pre-flight procedures are time-consuming, costly, and have not substantially improved the engine flame detector failure rate. There are 55 T-44A Inventory and all 55 will recive this modification.</p> <p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The GPS system to be installed will be a commercially available, Non-Development Item (NDI).</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th></th> <th colspan="2">Prior Years</th> <th colspan="2">FY 1998</th> <th colspan="2">FY 1999</th> <th colspan="2">FY 2000</th> <th colspan="2">FY 2001</th> <th colspan="2">FY 2002</th> <th colspan="2">FY 2003</th> <th colspan="2">FY 2004</th> <th colspan="2">FY 2005</th> <th colspan="2">To Complete</th> <th colspan="2">Total</th> </tr> <tr> <th></th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> </tr> <tr> <td>RDT&E</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>PROCUREMENT</td> 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<td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.3</td> </tr> <tr> <td>Installation Equipment</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>XXX Equip</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Installation Equipment N/R</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Engineering Change Orders</td> 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Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-44A

MODIFICATION TITLE: Engine Fire Warning System (OSIP 04-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Forced Retrofit

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

FY 2001: Nov-00

DELIVERY DATE: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

FY 2001: Dec-00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 (26) kits									26	*											26	*
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete (29) kits																			29	*	29	*
TOTAL									26	*									29	*	55	*

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In															9	9	8								
Out																9	9	8							

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									29	55
Out									29	55

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: UNFOTS Upgrade (OSIP 05-00)MODELS OF SYSTEMS AFFECTED: T-39N Aircraft and Ground Based Training System (GBTS)TYPE MODIFICATION: Conversion/Safety

DESCRIPTION/JUSTIFICATION: The block upgrade to the Undergraduate naval Flight Officer Training system (UNFOTS) is needed to enable the system to meet the requirements of the 4 Nov 1994 Training Systems Requirements Document (TSRD) and the latest Federal Aviation Administration (FAA) safety mandates. This block upgrade consists of the following aircraft and Ground Based Training system (GBTS) improvements: Radar upgrade, incorporation of GPS, GPWS, TCAS II, and GBTS upgrade to match enhanced radar. This block upgrade increases mission capability by bringing the T-39N aircraft in compliance with the minimum FAA requirements for future U.S. airways operation. Total T-39N inventory is 17 aircraft, all will receive this upgrade. ECPs will be requested from the T-39N Logistics Support Contractor. A TCAS II kit consists of a display, processor, directional antenna, computer, controller, and mounting and electrical hardware. A GPS kit consists of a computer, antenna, wiring, and mounting hardware. A GPWS kit consists of a computer, speakers, alert lamps display, wiring, and mounting hardware.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: With the exception of the GBTS, the components of the block upgrade will be COTS items. Only a limited aircraft integration effort will be required. The GBTS is a table top computer system with multiple stations to simulate airborne radar stations. The major development effort for the BGTS is software.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit							3	3.6	5	9.6	4	8.0	5	8.1							17	29.3
XXX Kit																						
Installation Kits N/R								0.6														0.6
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data																						
Training Equipment											1	2.1	1	3.9							2	6.0
Support Equipment																						
ILS																						
Other Support								0.3		0.3		0.3		0.2								1.1
Interim Contractor Support																						
Installation Cost							3	0.2	5	0.6	4	0.5	5	0.9							17	2.2
Total Procurement								4.7		10.5		10.8		13.2								39.2

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-39N and Ground Based Training System (GBTS)MODIFICATION TITLE: UNFOTS Upgrade (OSIP 05-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Installation of COTS Kits Concurrent with ACI

ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 1.0 Months

CONTRACT DATES: FY 1998: N/AFY 1999: N/AFY 2000: Nov-99FY 2001: Nov-00

DELIVERY DATE: FY 1998: N/AFY 1999: N/AFY 2000: Dec-99FY 2001: Dec-00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (3) kits							3	0.2													3	0.2
FY 2001 (5) kits									5	0.6											5	0.6
FY 2002 (4) kits											4	0.5									4	0.5
FY 2003 (5) kits													5	0.9							5	0.9
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							3	0.2	5	0.6	4	0.5	5	0.9							17	2.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											1	1	1		2	2	1		2	1	1		2	2	1
Out												1	1	1		2	2	1		2	1	1		2	2

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										17
Out	1									17

Exhibit P-3a		Individual Modification																				
MODIFICATION TITLE:		T-39 Wing Structural Fatigue Life Replacement (OSIP 07-01)																				
MODELS OF SYSTEMS AFFECTED:		T-39N and T-39G Aircraft																				
		TYPE MODIFICATION: <u>Safety</u>																				
<p>DESCRIPTION/JUSTIFICATION: The T-39 Aircraft is a commercial off-the-shelf aircraft utilized for training Undergraduate Military Flight Officers. The aircraft was structurally reinforced and an STC was issued to allow the aircraft to fly within the operational training envelope. The wings are rapidly approaching expiration of their fatigue life. Wing replacement is mandatory to avoid safety of flight issues. A rotational replacement of wings is required every four years under existing operational envelope and known data. A full stress fatigue analysis and fatigue tracking system monitoring program may allow an additional 3 years of wing fatigue life and eliminate one rotational replacement of aircraft wings. This modification provides replacement for two rotations and includes the costs for the analysis and fatigue tracking system. The fleet consists of 17 T-39N and 8 T-39G aircraft. All 25 of these aircraft will be modified.</p>																						
<p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Items to be installed will be commercially available, Non-Development Items (NDI).</p>																						
FINANCIAL PLAN: (TOA, \$ in Millions)																						
	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit Replacement Wings for T-39N									1	0.5	2	1.0	2	1.0	2	1.1	2	1.1	25	19.6	34	24.3
B Kit Replacement Wings for T-39G																			16	9.6	16	9.6
Installation Kits N/R																						
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R									0.0													0.0
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support											0.4		0.7		0.3		0.2		7.5		9.1	
Interim Contractor Support											0.2		0.2		0.2		0.2		1.4		2.3	
Installation Cost									1	0.1	2	0.3	2	0.3	2	0.3	2	0.3	41	6.2	50	7.4
Total Procurement										0.6		1.8		2.2		1.9		1.8		44.3		52.6

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-39N and T-39G Aircraft MODIFICATION TITLE: T-39 Wing Structural Fatigue Life Replacement/Study (OSIP 07-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Drive-In Modification at Contractor Facility or Concurrent with Aircraft Condition Inspection (ACI)

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: _____ Jan-01

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: _____ Jun-01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 (1) kits									1	0.1											1	0.1
FY 2002 (2) kits											2	0.3									2	0.3
FY 2003 (2) kits													2	0.3							2	0.3
FY 2004 (2) kits															2	0.3					2	0.3
FY 2005 (2) kits																	2	0.3			2	0.3
To Complete (41) kits																			41	6.2	41	6.2
TOTAL									1	0.1	2	0.3	2	0.3	2	0.3	2	0.3	41	6.2	50	7.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3.0	4
In																1				1	1			1	1
Out																		1			1	1			1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In			1	1			1	1	41	50
Out	1			1	1			1	42	50

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE C-2A(R) Series Modification					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY												
COST (In Millions)	*83.9	A	21.5	21.6	25.4	2.6	3.9	2.9			251.7	413.6
<p>This line item funds modifications to 36 C-2A(R) aircraft. The C-2A(R) Greyhound is a high wing monoplane, twin engine turbo-prop aircraft capable of operating from both a shore base and all operational USN aircraft carrier classes. The mission of the C-2A(R) is to provide rapid response Carrier Onboard Delivery (COD) of fleet essential supplies, repair parts, and personnel to sustain at sea operations of deployed battle groups. In addition, the C-2A(R) provides airdrop delivery and mobilization support for special operations forces from land bases and carriers. The overall goal of the modifications in FY2001 is to continue initial procurement efforts for the C-2A(R) Service Life Extension Program (SLEP). The design service life of the C-2A(R) is 10,000 flight hours with 15,000 landings. The service life remaining on the aircraft is 4,000 flight hours with 4,800 landings.</p>												
(TOA, \$ in Millions)												
OSIP No.	Description	*Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
23-94	C-2A GPS	7.1	0.3									7.4
24-94	C-2A SLEP	76.8	21.2	21.6	25.4	2.6	3.9	2.9			251.7	406.1
	Total	*83.9	21.5	21.6	25.4	2.6	3.9	2.9			251.7	413.6
Note: Totals may not add due to rounding.												
* Prior to FY1998, funding for the C-2A Modifications was contained within the Cargo & Transport Aircraft Series Modification line.												

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE:

C-2A(R) Global Positioning System (GPS) (OSIP 23-94)

MODELS OF SYSTEM AFFECTED:

C-2A(R)

TYPE MODIFICATION:

Safety

DESCRIPTION/JUSTIFICATION:

The C-2A(R) Greyhound provides the Fleet's Carrier Onboard Delivery (COD) and other missions which require long distance, over water navigation. The LTN-211 Omega System which is being phased out in the 1990s and the AN/ASN-116 AHRS, which has a documented MTBF of 17 hours, make up the current C-2A(R) navigation suite. ASD(C3I) Memo of 11 May 1988 and the Common Avionics GPS OSIP 71-88 provide the rationale and justification for procurement of GPS for Navy aircraft, including the C-2A(R). This avionic systems upgrade is required to provide both long term operability and a crucial improvement in the operational capability and safety margin of the aircraft. With a GPS integration augmented by a reliable navigation system, CAINS II, the C-2A(R) will be able to perform its COD and other special operations critical to Fleet support beyond CY2000. This OSIP also rectifies several of the documented deficiencies in the final C-2A(R) INSURV report (Serial #9203021 of 2 March 1992).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development and operational testing on the C-2A(R) has been successfully completed.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
GPS Kits	36	1.4																			36	1.4
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.7																				0.7
Training Equipment	3	2.9																				2.9
Support Equipment		0.2																				0.2
Integrated Logistics Support		0.6																				0.6
Other Support																						
Interim Contractor Support																						
Installation Cost	30	1.4	6	0.3																	36	1.7
TOTAL PROCUREMENT		7.1		0.3																		7.4

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2A(R) MODIFICATION TITLE: C-2A(R) Global Positioning System (GPS) (OSIP 23-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation during Standard Depot Level Maintenance (SDLM) augmented by Drive In Modification and Field Modification Teams at the Naval Aviation Depot (NADEP).

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 15 Months

CONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/A

DELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/A

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (36) kits	30	1.4	6	0.3																	36	1.7
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
To Complete () kits																						
TOTAL	30	1.4	6	0.3																	36	1.7

Installation Schedule

	FY 1997	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	30	2	2	2																					
Out	30	2	2	2																					

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									0	36
Out									0	36

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: C-2A(R) Block Upgrade/Service Life Extension Program (OSIP 24-94)

MODELS OF SYSTEMS AFFECTED: C-2A(R) Aircraft

TYPE MODIFICATION: SAFETY/SLEP

DESCRIPTION/JUSTIFICATION:

In accordance with ORD 352-88-94 the C-2A(R) Block Upgrade/SLEP will permit extended operations of the total active inventory of 36 aircraft providing the Navy's Carrier Onboard Delivery (COD) beyond its current projected service life. It will also provide for the installation of avionics systems required to improve performance and preclude obsolescence during the extended life of this critical Fleet asset. At least two C-2A(R) will reach 100% of fatigue life in 2000, over three quarters of the aircraft will be grounded by CY 2005. This OSIP will ensure that the impact on COD operations is minimized. Usage analyses under a Full Scale Fatigue Test shows that airframe structural life including that of Outer Wing Panels (OWPs) will be less than designed life. This OSIP will provide for OWP structural Airframe Change (AFC) enhancements. In addition to the service life structural changes, this upgrade will replace and/or install systems and components (L-Probe/VSI, CAINS II, ARC-210 radios, full face O2 mask, and aircraft wiring) which are documented deficiencies as noted in the final C-2A(R) INSURV report. It is planned that the CAINS II modification will be installed on an accelerated basis in advance of the other SLEP changes. Additional funds in FY2000 support the integration of a new 8 blade propeller. The new Interim AFC requirement in FY 2001 was directed by the resource sponsor(N88). Based on results of the Full Scale Fatigue Test, it was determined that the C-2(R) would fall 5 aircraft below the designated Primary Aircraft Authorization(PAA) of 29 aircraft. The Interim AFC mod will change the engine nacelle, wingfold rib, injections ports and horizontal slab of five (5)

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development and operational testing (DT and OT) have been completed for the avionics systems included in this OSIP. DT and OT of the various modifications for the SLEP systems in the C-2A(R) began in FY 1997 and will complete in FY 2003. The Congressional plus-up in FY2000 for the new 8 blade propeller will provide a program flying analyses, propeller system design, an engine structural load fatigue analysis, and a control system analysis by the end of FY2000.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
L-Probe Kit	11	0.1	14	0.1	5	*	6	*													36	0.3
CAINS II A Kit	11	1.1	14	0.6	5	0.3	6	0.3													36	2.3
ARC-210 Kit					1	0.1	1	0.1			18	1.8							16	1.6	36	3.6
Rewire Kit																			36	26.0	36	26.0
Structure Kit																			36	119.5	36	119.5
O2 Mask Kit																			36	0.8	36	0.8
Interim AFC									5	0.3											5	0.3
Enhanced OWP Kit			1	4.2	3	6.6	2	4.4													6	15.2
OWP Enhancement Kit							12	2.6			4	0.9	4	0.9					8	1.9	28	6.3
OWP Conversion Kit			3	0.5	8	1.2	3	0.5			2	0.3									16	2.4
Installation Kits N/R		15.8		2.0																		17.8
Installation Equipment CAINS II			20	2.6	30	3.5															50	6.1
Installation Equipment N/R		4.0		0.2																		4.2
Engineering Change Orders																						
Data		2.7		2.0		1.9		2.2														8.8
Training Equipment		0.8		0.6		1.3		1.2														4.0
Support Equipment		0.8																				0.8
ILS		1.1		0.7		0.7		0.7												0.8		3.9
Other Support		50.2		7.4		5.5		8.6		1.1										3.0		75.8
Interim Contractor Support																						
Installation Cost	4	0.1		0.4	14	0.5	68	4.7	5	1.3	4	0.9	22	2.0					132	98.2	249	108.0
Total Procurement		76.8		21.2		21.6		25.4		2.6		3.9		2.9						251.7		406.1

- Notes:
1. Totals may not add due to rounding
 2. Asterisk indicates amount less than \$50K
 3. Enhanced OWP Kit and OWP Conversion Kit installed by fleet.
 4. Funding in FY98/99 for 20 and 30 CAINS II B Kits respectively were reprogrammed to the C-2A Program from the Common Avionics Program.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-2A(R)** MODIFICATION TITLE: Block Upgrade/SLEP (OSIP 24-94) - CAINS II / L-Probe

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contract**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 1998: May-98 FY 1999: Aug-99 FY 2000: Nov-99 FY 2001: N/A

DELIVERY DATE: FY 1998: Jul-99 FY 1999: Apr-00 FY 2000: Jul-00 FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (50) kits	4	0.1			14	0.5	32	1.1													50	1.7
FY 1999 (10) kits							10	0.3													10	0.3
FY 2000 (12) kits							12	0.4													12	0.4
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	4	*			14	0.5	54	1.9													72	2.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	4								14	13	13	14	14												
Out	4									14	13	13	14	14											

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										72
Out										72

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-2A(R)** MODIFICATION TITLE: Block Upgrade/SLEP (OSIP 24-94) - ARC-210 Radios

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Navy Field Modification Team (FMT)**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 1998: N/A FY 1999: Jan-99 FY 2000: Dec-99 FY 2001: N/A

DELIVERY DATE: FY 1998: N/A FY 1999: Oct-99 FY 2000: Sep-00 FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (1) kits							1	0.1													1	0.1
FY 2000 (1) kits							1	0.1													1	0.1
FY 2001 () kits																						
FY 2002 (18) kits													18	1.0							18	1.0
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete (16) kits																			16	1.6	16	1.6
TOTAL							2	0.1					18	1.0					16	1.6	36	2.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										1		1										4	4	5	5
Out											1		1									4	4	4	5

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									16	36
Out	5								16	36

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-2A(R)** MODIFICATION TITLE: Block Upgrade/SLEP (OSIP V24-94) - Outer Wing Panel Enhancement

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Navy Forced Retrofit Component

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: Oct-99 FY 2001: N/A

DELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: Feb-00 FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (12) kits							12	2.6													12	2.6
FY 2001 () kits																						
FY 2002 (4) kits											4	0.9									4	0.9
FY 2003 (4) kits													4	0.9							4	0.9
FY 2004 () kits																						
FY 2005 () kits																						
To Complete (7) kits																			8	1.9	8	1.9
TOTAL							12	2.6			4	0.9	4	0.9					8	1.9	28	6.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											4	4	4						2	2			2	2	
Out											4	4	4						2	2			2	2	

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									8	28
Out									8	28

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2A(R) MODIFICATION TITLE: Block Upgrade/SLEP (OSIP V24-94) - Interim AFC

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Navy Field Modification Team (FMT)

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: Oct-00

DELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: Feb-01

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 (5) kits									5	1.3											5	1.3
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL									5	1.3											5	1.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In														2	2	1									
Out														2	2	1									

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										5
Out										5

Exhibit P-40, BUDGET ITEM JUSTIFICATION											DATE: February 2000	
APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOMENCLATURE					
Aircraft Procurement, Navy/APN-5 Aircraft Modifications							C-130 Series					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY		A										
COST (In Millions)	88.0	A	21.9	5.3	15.2	7.9	6.0	3.4	2.3	2.4	10.1	162.4
This item funds modifications to C/KC-130 aircraft. The Lockheed C/KC-130 aircraft is a four engine, high-wing, all metal, long range, land based monoplane capable of all weather transport of cargo or personnel and in-flight refueling. The majority of the modifications budgeted in FY2001 and beyond is to correct safety deficiencies. There are currently 92 aircraft in the Navy and Marine Corps inventory (44 active and 48 reserve). The expected Service Life is as follows:												
T/M/S	Service Date	Service Life	Expected Life									
C-130T	10/91 - 11/95	450 mos.	2028-2032									
KC-130F	3/60 - 11/62	504 mos.	2002-2008									
KC-130R	9/75 - 6/78	432 mos.	2011-2014									
KC-130T	4/84 - 2/96	450 mos.	2021-2033									
TC-130G	1/64	216 mos.	1982-TBD									
(TOA, \$ in Millions)												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
70-85	AVIONICS SYSTEM IMPR PGM (ASIP III)	58.9	3.0									61.9
02-92	ARC-210 RADIO SYSTEM	3.8	0.9	0.3	1.0	2.0	1.5	1.1	1.0	1.8	10.1	23.4
25-92	GLOBAL POSITIONING SYSTEM (GPS)	20.3	7.2	2.2	1.8							31.6
09-94	NIGHT VISION LIGHTING (NVL)	3.0	0.2		1.5	0.9	1.2	1.1	0.9			8.8
39-95	STANDBY ATTITUDE INDICATOR (SAI)	1.9	0.1									2.0
19-98	SAFETY IMPROVEMENT PROGRAM		10.6	2.7	5.4	5.1	3.3	1.1	0.4	0.6		29.3
19-00	VISUAL SIMULATOR				5.5							5.5
Total		88.0	21.9	5.3	15.2	7.9	6.0	3.4	2.3	2.4	10.1	162.4
RESERVE FUNDING INCLUDED IN TOTAL		1.5	1.0	3.7	1.2	2.7	2.0	2.0	0.3	0.3	0.3	
Note: Totals may not add due to rounding.												

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Avionics System Improvement Program (OSIP 70-85)MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T, TrainersTYPE MODIFICATION: Performance Enhancement (HONA Category C)

DESCRIPTION/JUSTIFICATION: The older C/KC-130F/R/T aircraft were equipped with old vacuum tube electronics and early 1950's technology. These systems are expensive to maintain in money and manpower, including reliability. This ASIP program replaced the old equipment with the latest state-of-the-art equipment. This modification is covered by a singular ECP (C-130-56) and was incorporated in the oldest 62 aircraft of the 92 aircraft in inventory (54 active and 8 reserve). The systems to be installed are: (1) Solid State Propeller synchronization, (2) Compass System, (3) Combined Altitude Radar Altimeter (CARA), (4) Engine Instruments, (5) Flight Director, (6) Ground Proximity Warning System, and (7) Autopilot Improvement. These systems provide a substantial increase in safety, reliability, and maintainability. This program is baseline for the GPS program (OSIP 25-92). ORD was not required in FY85.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: With the conclusion of the FY 1998 installations, this modification is complete.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit	62	7.7																			62	7.7
Installation Kits N/R		7.7																				7.7
Installation Equipment																						
Equip		25.2																				25.2
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.7																				1.7
Training Equipment		2.7																				2.7
Support Equipment		2.3																				2.3
ILS		2.4																				2.4
Other Support		0.8		0.1																		0.8
Interim Contractor Support																						
Installation Cost	32	8.4	6	2.9																	38	11.3
Total Procurement		58.9		3.0																		61.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T, TrainersMODIFICATION TITLE: Avionics System Improvement Program (OSIP 70-85)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Organic and DLA Administered commercial non-CONUS (Singapore) DIMADMINISTRATIVE LEADTIME: N/A MonthsPRODUCTION LEADTIME: MonthsCONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/ADELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (38) kits	32	8.4	6	2.9																	38	11.3
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	32	8.4	6	2.9																	38	11.3

Note: 21 kits were installed prior to FY91 with funding outside this OSIP.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	32	2	2	1	1																				
Out	32		2	2	1	1																			

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										38
Out										38

Exhibit P-3a	Individual Modification
MODIFICATION TITLE:	<u>AN/ARC-210(V) ECCM RADIO (OSIP 02-92)</u>
MODELS OF SYSTEMS AFFECTED:	<u>C-130T, KC-130F/R/T</u>
	TYPE MODIFICATION: <u>Performance Enhancement (HONA Category C)</u>

DESCRIPTION/JUSTIFICATION: The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for EP interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINGARS. Baseline for this program is GPS (OSIP 25-92). This modification is covered by a singular ECP (C-130-99) and will be incorporated in 84 C-130 aircraft (36 active and 48 reserve). This modification was approved 20 Apr 93, ORD 333-06-093.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ARC-210 radio replaces the AN/ARC-159 radios in the C-130 aircraft. Validation/verification was performed during FY 1994-FY 1996. FOT&E completed in February 1997 for the KC-130T configuration, and was performed in FY97 for the KC-130F and KC-130R configurations. Recurring production installations started in April 1997. The previous program planned called for 77 aircraft to be equipped with 1556 radios and 14 aircraft to be equipped with 1794C radios that were SATCOM capable. Changes in the technical requirements for SATCOM capability have caused us to alter the program. All aircraft will have to be 1794C SATCOM capable. OSIP has been changed to reflect SATCOM incorporation in all 84 aircraft (four funded under a Common Avionics OSIP). Twenty-one aircraft previously modified will have to be retrofitted with this additional capability (The 21 reflects the kits acquired in FY98 and prior). Reduction in quantity from 91 to 84 is based on current plan to retire KC-130F aircraft as they are replaced by KC-130J aircraft.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit	16	0.8	5	0.4			10	0.9	7	0.6	5	0.4	5	0.4	3	0.2	10	0.9	40	2.9	101	7.5
Installation Kits N/R		0.8						0.1	0.1													1.0
Installation Equipment																						
Equip		0.4																				0.4
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1															0.1		*			0.3
Training Equipment	1	*															3	0.3	1	0.1	5	0.4
Support Equipment		*																				*
ILS		0.2		0.1																		0.2
Other Support		0.6		*		*			*		0.1		*		0.1		0.1		0.2			1.1
Interim Contractor Support																						
Installation Cost	11	0.9	5	0.4	5	0.3			10	1.3	7	1.0	5	0.7	5	0.7	3	0.4	54	6.9	105	12.6
Total Procurement		3.8		0.9		0.3		1.0		2.0		1.5		1.1		1.0		1.8		10.1		23.4

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/TMODIFICATION TITLE: AN/ARC-210 ECCM RADIO (OSIP 02-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished by Organic/Commercial FMT (2 radios per aircraft).ADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 10 MonthsCONTRACT DATES: FY 1998: Dec 97 FY 1999: N/A FY 2000: Dec 99 FY 2001: Dec 00DELIVERY DATE: FY 1998: Oct-98 FY 1999: N/A FY 2000: Oct 00 FY 2001: Oct 01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (21) kits	11	0.9	5	0.4	5	0.3															21	1.6
FY 1999 () kits																						
FY 2000 (10) kits									10	1.3											10	1.3
FY 2001 (7) kits											7	1.0									7	1.0
FY 2002 (5) kits													5	0.7							5	0.7
FY 2003 (5) kits															5	0.7					5	0.7
FY 2004 (3) kits																	3	0.4			3	0.4
FY 2005 (13) kits																			13	1.4	13	1.4
To Complete (41) kits																			41	5.5	41	5.5
TOTAL	11	0.9	5	0.4	5	0.3			10	1.3	7	1.0	5	0.7	5	0.7	3	0.4	54	6.9	105	12.6

* INCLUDES 1 TRAINER INSTALL IN FY97, 3 TRAINERS IN FY05, AND 1 TRAINER IN 'TO COMPLETE'.

* 1 KIT PURCHASED FY98 AND PRIOR, WILL NOT BE USED DUE TO THE CHANGE IN CONFIGURATION.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	11			2	3		2	2	1						4	3	3		3	2	2		2	2	1
Out	11				2	3		2	2	1						4	3	3		3	2	2		2	2

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In		2	2	1		1	1	1	54	105
Out	1		2	2	1		1	1	55	105

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: C/KC-130 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 25-92)MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T, TC-130GTYPE MODIFICATION: Safety & Congressional Mandate (HONA Category A)

DESCRIPTION/JUSTIFICATION: DOD aircraft currently operate within the National Airspace System using TACAN/DME as primary navigation aids. The Federal Radio navigation Plan states that the DOD intends to phase out the use of land based TACAN/DME. DOD policy prescribes that GPS will be installed to allow it to be used as the aircraft's sole navigation aid for enroute, terminal, and approach phases of flight and that the use of GPS will be essentially transparent to the existing air traffic control system. To implement this policy and to provide for an efficient transition from TACAN/DME, GPS must be integrated into DOD aircraft in a manner which permits emulation of TACAN/DME procedures. Baseline for this program is ASIP III (OSIP 70-85). This modification is covered by a singular ECP (C-130-98) and will be incorporated in 94 aircraft (46 active and 48 reserve). This is a joint service modification approved 22 Jan 90, ORD USAF 003-78, I/II/III.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The Coast Guard HC-130 and Navy KC-130 integration development is a joint program intended to minimize costs and maximize system knowledge. Prototype installations using SPAWAR furnished assets commenced in September 1993, immediately followed by the KC-130 installations. Both aircraft were successfully tested at NAWC Patuxent River which became the basis for the VAL/VERS which began in the third quarter FY 1994. Trial kits completed in the fourth quarter in FY 1995. Recurring installs started FY 1996 and will be completed during FY 2000.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit	48	6.0	46	4.9																	94	11.0
Installation Kits N/R		4.9		0.1																		5.0
Installation Equipment		1.2																				1.2
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.3		0.4																		1.7
Training Equipment	4	3.1																			4	3.1
Support Equipment																						
ILS		0.4		*																		0.5
Other Support		0.7		0.6		0.2		0.1														1.6
Interim Contractor Support																						
Installation Cost	32	2.6	17	1.2	26	2.0	23	1.8													98	7.6
Total Procurement		20.3		7.2		2.2		1.8														31.6

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T, TC-130GMODIFICATION TITLE: GLOBAL POSITIONING SYSTEM (GPS) (OSIP 25-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial/Organic Field Mod TeamADMINISTRATIVE LEADTIME: 3 MonthsPRODUCTION LEADTIME: 9 MonthsCONTRACT DATES: FY 1998: Feb 98 FY 1999: N/A FY 2000: N/A FY 2001: DELIVERY DATE: FY 1998: Jan-99 FY 1999: N/A FY 2000: N/A FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (98) kits	32	2.6	17	1.2	26	2.0	23	1.8													98	7.6
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	32	2.6	17	1.2	26	2.0	23	1.8													98	7.6

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	32	4	4	4	5	7	6	7	6	6	6	6	5												
Out	32		4	4	4	5	7	6	7	6	6	6	6	5											

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										98
Out										98

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: KC-130 NIGHT VISION LIGHTING (NVL) (OSIP 09-94)MODELS OF SYSTEMS AFFECTED: KC-130F/R/T, and OPS TrainerTYPE MODIFICATION: Performance Enhancement (HONA Category C)

DESCRIPTION/JUSTIFICATION: Description/Justification: The KC-130 has no NVL capability to support flight operations to accomplish tactical missions at night. The lack of NVL capability creates significant interoperability problems with other NVD capable aircraft. Incorporation of a non-developmental NVL system, that has been prepared for other USMC/USAF tactical aircraft and is compatible with KC-130 tactical missions and avionics, will alleviate this critical shortfall and allow the accomplishment of tactical missions without unnecessarily jeopardizing the crew's safety and the safety of the aircraft. This modification will allow C-130 aircraft to navigate visually at night at low altitudes (using night vision and rear vision devices), aerial refuel at night with NVG capable receivers, conduct clandestine (NVD only) tactical landings and takeoffs from austere sites, conduct ground refueling (using rapid ground refueling pods) and air-landed support operations. This modification is covered by a singular ECP and will be incorporated in 24 aircraft and 1 trainer.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The initial in-production engineering change proposal to incorporate non-developmental NVL in USMCR KC-130T aircraft was funded with NG&RE. Design/development of retrofit aircraft affected by this OSIP was originally based on the KC-130T NG&RE program. Development commenced in FY 1994 with procurement of two trial kits that were installed in FY 1995. Funding constraints delayed continuation of this program. Limited funds were required in FY97/98 to provide Maintenance Plans, pubs, and other logistics support for the aircraft already fielded. A newly competed contract will allow us to restart this program in FY00 with non-recurring engineering and retrofit kits/installation. Program completion is expected in FY 2004.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit	2	0.9					4	0.5	4	0.4	6	0.6	5	0.5	3	0.3					24	3.2
Installation Kits N/R		0.7						0.4							0.2							1.3
Installation Equipment		0.3																				0.3
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1																				0.1
Training Equipment											1	*									1	*
Support Equipment																						
ILS		*		0.2					0.1													0.2
Other Support		*					0.2		0.1		0.1		0.1		0.1							0.6
Interim Contractor Support																						
Installation Cost	2	1.0					4	0.4	4	0.3	6	0.5	6	0.5	3	0.3					25	3.1
Total Procurement		3.0		0.2				1.5		0.9		1.2		1.1		0.9						8.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: KC-130F, KC-130R, KC-130T, trainerMODIFICATION TITLE: NIGHT VISION LIGHTING (NVL) (OSIP 09-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished by Contractor Field Mod Team.ADMINISTRATIVE LEADTIME: 3 MonthsPRODUCTION LEADTIME: 6 MonthsCONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: Dec 99 FY 2001: Dec 00DELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: Jun 00 FY 2001: Jun 01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (2) kits	2	1.0																			2	1.0
FY 1999 () kits																						
FY 2000 (4) kits							4	0.4													4	0.4
FY 2001 (4) kits									4	0.3											4	0.3
FY 2002 (7) kits											6	0.5	1	0.1							7	0.6
FY 2003 (5) kits													5	0.4							5	0.4
FY 2004 (3) kits															3	0.3					3	0.3
FY 2005 () kits																						
To Complete () kits																						
TOTAL	2	1.0					4	0.4	4	0.3	6	0.5	6	0.5	3	0.3					25	3.1

Note: FY 2003 installs include one trainer

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2											2	2			2	2			3	3			3	3
Out	2												2	2			2	2			3	3			3

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In			2	1						25
Out	3			2	1					25

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: STANDBY ATTITUDE INDICATOR (OSIP 39-95)MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T, TC-130G, TrainersTYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: Requirement for installation of a standby attitude gyro indicator into DON C-130 aircraft is a direct result of two Naval aviation hazard reports concerning a potential safety of flight situation. Under certain circumstances, electrical power can be lost to aircraft primary attitude instruments. No backup attitude information is currently available to the aircraft models listed. This OSIP provides the backup attitude information needed to avoid a potentially dangerous deficiency. This change is considered safety in nature and incorporates a singular ECP (C-130-106) on 98 aircraft and 4 trainers (50 active and 48 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The standby attitude indicator, part number 501-1533-51, is fully developed and available in the supply system. The indicator will be a part of the installation kit. Technical Directive trial kits (validation/verification) completed first quarter FY95. Recurring installs by contractor field mod teams were completed on 95 aircraft during FY96. Two non-CONUS aircraft were modified in FY97. The trainers and one remaining aircraft that was unavailable were modified during FY98 to complete the program.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Install Kit	102	1.2																			102	1.2
Installation Kits N/R		0.3																				0.3
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		*																				0.0
Training Equipment																						
Support Equipment																						
ILS		*																				0.0
Other Support		*																				0.0
Interim Contractor Support																						
Installation Cost	97	0.4	5	0.1																	102	0.5
Total Procurement		1.9		0.1																		2.0

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T, TC-130G, trainersMODIFICATION TITLE: STANDBY ATTITUDE INDICATOR (OSIP 39-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Teams/Depto installsADMINISTRATIVE LEADTIME: N/A MonthsPRODUCTION LEADTIME: N/A MonthsCONTRACT DATES: FY 1998: N/A FY 1999: _____ FY 2000: _____ FY 2001: _____DELIVERY DATE: FY 1998: N/A FY 1999: _____ FY 2000: _____ FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (102) kits	97	0.4	5	0.1																	102	0.5
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	97	0.4	5	0.1																	102	0.5

Note: FY 1998 installs include 4 trainers

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	97		1	4																					
Out	97			1	4																				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										102
Out										102

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: SAFETY IMPROVEMENT PROGRAM (OSIP 19-98)

MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T, TC-130G, TRAINERS

TYPE MODIFICATION: SAFETY (HONA Category A)

DESCRIPTION/JUSTIFICATION: This OSIP represents several safety related modifications to various C-130 aircraft.

1. Bleed Air Ducts/Overheat Detection System (ODS). During FY98, a modification was begun to replace critical bleed air ducts and install an improved Overheat Detection System. The bleed air system uses high pressure and high temperature bleed air from the compressor of all engines to pressurize the fuselage, provide heating and air conditioning, remove ice from the wings and tail section, and many other uses. Bleed air duct failures are the top emerging hazard to safe operations of C/KC-130 aircraft in the Department of the Navy. Leaks in the system, often undetected, can cause severe heat damage. This modification replaces bleed air ducts in 61 older aircraft (51 active and 10 reserve), using inconel ducts wherever available. To identify potential failures, this modification also installs an improved overheat detection system in 79 aircraft (51 active and 28 reserve). This system consists of a continuous loop sensor wire that will provide real time bleed air leak detection warnings to flight crews. The system will detect overheat conditions occurring in hidden structural areas and allow the crew to control serious collateral heat damage.
 2. Propeller Valve Housing. Older model prop valve housing governors fail during flight causing the engine to be shut down. The replacement governor uses a dual bearing configuration which greatly reduces bearing failure. This modification is required in 99 aircraft (50 active and 48 reserve).
 3. LOX Heat Exchanger. An Air Force Study, resulting from several mishaps, has determined that the existing flat plate type liquid oxygen heat exchanger is insufficient to heat the amount of oxygen necessary to support the full crew in the event of a mishap requiring 100% oxygen. A higher capacity coil type heat exchanger is required. This modification removes the flat plate type and replaces it with a coil type heat exchanger. It is required on the 49 aircraft.
 4. IFR Pump Replacement. On 7 March 1997, a fire inside a fuselage tank during aerial refueling of a F-18 aircraft brought attention to a deficiency with the design of the current IFR pump. Investigation revealed three similar incidents with USN and USMC aircraft caused by a design deficiency in the sealed upper bearing that allows it to overheat. The replacement pump offers many improvements over the existing pump including a sealed flash proof upper bearing. This modification effects 78 aircraft (51 active and 28 reserve).
 5. Towed Parachute Retrieval System (TPRS). USN/USMC C/KC-130 aircraft are currently operating under an N85 restriction limiting paratrooper weight to 250 pounds for static-line door exits; CNO Washington DC 251626Z Oct 99 refers. This policy restricts retrieving most combat-equipped jumpers and thus hampers realistic training. Installation of this system (currently in use by the USAF) allows for retrieval of paratroopers weighting up to 400 pounds. A Class One ECP is in development and effects 36 aircraft.
- DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: 1. Bleed Air Duct/Overheat Detection System. Non-recurring engineering and design as well as procurement of the kits began in FY98 via a turn-key contract with the OEM (Lockheed). Validation/verification was performed during second quarter FY99. Recurring installs began FY98. Program completion is scheduled for FY01.
2. Propeller Valve Housing. Solution identified and first procurement contract for valves and initial spares has been placed on contract. Recurring installations has begun in the 4th quarter of FY99. Program completion expected FY02.
 3. LOX Heat Exchanger. Program will be initiated during 1st quarter FY02. Validation/verification expected 2nd quarter with recurring installs complete by the end of FY02.
 4. IFR Pump Replacement. Non-recurring engineering will begin FY01. Validation/Verification expected by 4th quarter FY01 with recurring installations to begin FY02.
 5. TPRS. These items are currently in use by the USAF and can be manufactured at Warner Robins ALC, GA. Items will be procured 2nd quarter FY00 and provided to the affected squadrons for O-Level install. Pubs will be updated 4th quarter.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Bleed Air Duct Kit			32	4.6	5	0.8	21	0.6	3	0.1											61	6.1
ODS Kit			32	2.2	5	0.4	21	1.2	21	1.0											79	4.8
Prop Valve Kit					22	0.8	24	0.8	53	1.9											99	3.5
Towed Parachute Retrieval Sys.							36	0.1													36	0.1
LOX Heat Exchanger Kit											49	0.6									49	0.6
IFR Pump Kit									5	0.3	39	2.0	17	0.9	6	0.3	11	0.6			78	3.9
Installation Kits N/R				1.5				0.5		0.4		0.2		*		*						2.5
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.1		*		0.2		0.1		0.1		0.0		*		*				0.6
Training Equipment				*																		*
Support Equipment																						
ILS								*		*		0.0		*		*		*				0.2
Other Support						0.1		0.2		0.2		0.3		0.2		0.1		*				1.1
Interim Contractor Support																						
Installation Cost			58	2.1	35	0.6	51	1.7	24	1.2	49	0.2									217	5.9
Total Procurement				10.6		2.7		5.4		5.1		3.3		1.1		0.4		0.6				29.3

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T, TC-130GMODIFICATION TITLE: Bleed Air Ducts/Overheat Detection System (OSIP 19-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Team as part of a turn-key contractADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 3 MonthsCONTRACT DATES: FY 1998: Jul-98 FY 1999: Mar-99 FY 2000: Nov-99 FY 2001: Nov 00DELIVERY DATE: FY 1998: Sep-98 FY 1999: Mar-99 FY 2000: Mar-00 FY 2001: Mar 01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (64) kits			58	2.1	6	0.1															64	2.2
FY 1999 (10) kits					10	0.2															10	0.2
FY 2000 (42) kits							42	1.6													42	1.6
FY 2001 (24) kits									24	1.2											24	1.2
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			58	2.1	16	0.4	42	1.6	24	1.2											140	5.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					58	4	4	4	4	12	10	10	10	9	5	5	5								
Out						58	4	4	4	4	12	10	10	10	9	5	5	5							

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										140
Out										140

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T, TC-130GMODIFICATION TITLE: Prop Valve Housing, LOX Heat Exchanger & TPRS (OSIP 19-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level FMT and specialized I&O-LevelADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 2 MonthsCONTRACT DATES: FY 1998: _____ FY 1999: Jun-99 FY 2000: Nov-99 FY 2001: Nov-00DELIVERY DATE: FY 1998: _____ FY 1999: Aug-99 FY 2000: Jan-00 FY 2001: Jan 01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (19) kits					19	0.3															19	0.3
FY 2000 (9) kits							9	0.1													9	0.1
FY 2001 () kits																						
FY 2002 (49) kits											49	0.2									49	0.2
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					19	0.3	9	0.1			49	0.2									77	0.6

Installation Schedule *** Prop Valve install is combination of Depot level (28 acft) and specialized I-level (71-no cost), LOX is depot Level FMT, IFR pump, & TPRS installs are O-level (no cost).

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
In									19	3	2	2	2						17	16	16					
Out										19	3	2	2	2						17	16	16	16			

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										77
Out										77

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: VISUAL SYSTEM UPGRADE FOR SIMULATORS (OSIP 19-00)MODELS OF SYSTEMS AFFECTED: KC-130F/R Visual Simulators (2F107 + 2F152)TYPE MODIFICATION: Performance Enhancement (HONA Category C)

DESCRIPTION/JUSTIFICATION: Funds are provided to procure visual system upgrades to the visual flight simulators located at El Toro (being moved to Miramar via BRAC) and Cherry Point. The existing visual systems are fifteen years old and are based on 1960's technology. They are no longer supported by the OEM. Reliability and maintainability issues are the main reason for upgrade to 1990's technology. They presently cannot network with other simulators because of incompatible databases.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This will be a competitive contract award through NAWC TSD, Orlando FL. Contract will be competed and awarded during FY00.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R								3.0														3.0
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data								0.1														0.1
Training Equipment							2	1.5													2	1.5
Support Equipment																						
ILS								*														0.0
Other Support								0.1														0.1
Interim Contractor Support																						
Installation Cost							2	0.7													2	0.7
Total Procurement								5.5														5.5

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: KC-130F/R VISUAL SIMULATORS (2F107 + 2F152) MODIFICATION TITLE: VISUAL SYSTEM UPGRADE FOR SIMULATORS (OSIP 19-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Turn Key Contract for NRE, procurement, and installation

ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: Mar 00 FY 2001: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: Jul-00 FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 (2) kits							2	0.7													2	0.7
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							2	0.7													2	0.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													2												
Out													2												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										2
Out										2

BUDGET ITEM JUSTIFICATION SHEET P-40										DATE: February 2000																																																						
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE FEWSG (Fleet Electronic Warfare Support Group) Series Modifications																																																								
Program Element for Code B Items: 0204575N								Other Related Program Elements																																																								
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																				
QUANTITY																																																																
COST (In Millions)	55.0		0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.6	5.4	65.2																																																				
<p>This line item funds modifications to several aircraft and equipment. The overall goal of the budgeted modifications is to accurately simulate the known and postulated electronic warfare characteristics and tactics of different threats for fleet training. The AN/ALQ-170 (OSIP 14-85) equipment was installed and carried aboard the EP-3J and NKC-135A, with plans for future carriage on F/A-18 and Lear Jets. AN/ALQ-170 was phased out in FY97. OSIP 119-83 FEWSG equipment, AN/DLQ-3, AN/AST-6(V), AN/ULQ-21 and AN/ALQ-167 are installed and/or carried aboard the F/A-18, EA-6B, F-14, and are planned for carriage on the Gulfstream G-1.</p> <p>The specific modifications budgeted and programmed are:</p> <table><tr><td colspan="13">(TOA, \$ in Millions)</td></tr><tr><td>OSIP No.</td><td>Description</td><td>Prior Years</td><td>FY 1998</td><td>FY 1999</td><td>FY 2000</td><td>FY 2001</td><td>FY 2002</td><td>FY 2003</td><td>FY 2004</td><td>FY 2005</td><td>To Complete</td><td>Total</td></tr><tr><td>119-83</td><td>AN/DLQ-3,AN/AST-4/-6 ULQ-21,ALQ-167</td><td>55.0</td><td>0.5</td><td>0.6</td><td>0.6</td><td>0.6</td><td>0.7</td><td>0.6</td><td>0.6</td><td>0.6</td><td>5.4</td><td>65.2</td></tr><tr><td></td><td>TOTAL</td><td>55.0</td><td>0.5</td><td>0.6</td><td>0.6</td><td>0.6</td><td>0.7</td><td>0.6</td><td>0.6</td><td>0.6</td><td>5.4</td><td>65.2</td></tr></table>													(TOA, \$ in Millions)													OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total	119-83	AN/DLQ-3,AN/AST-4/-6 ULQ-21,ALQ-167	55.0	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.6	5.4	65.2		TOTAL	55.0	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.6	5.4	65.2
(TOA, \$ in Millions)																																																																
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																				
119-83	AN/DLQ-3,AN/AST-4/-6 ULQ-21,ALQ-167	55.0	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.6	5.4	65.2																																																				
	TOTAL	55.0	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.6	5.4	65.2																																																				

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE:

FEWSG (OSIP 119-83) AN/DLQ-3, AN/AST-4, AN/AST-6(V), AN/ULQ-21 and AN/ALQ-167

MODELS OF SYSTEM AFFECTED:

N/A

TYPE MODIFICATION:

RELIABILITY, MAINTAINABILITY ANI
CAPABILITY UPGRADES

DESCRIPTION/JUSTIFICATION:

The AN/ALQ-167 pods internal components are also installed internally in aircraft. When these components are utilized in this type of installation, they are nomenclatured AN/DLQ-3. The AN/AST-4 and AN/AST-6(V) pods electronically simulate several types of threat anti-ship missile seeker systems. These podded devices were first introduced into the fleet in 1980 and proved exceptionally useful in readiness exercises. This program provides for the procurement and initial support of additional quantities of these pods for use by logistic support squadrons and other operational fleet units. No aircraft modifications are required to use these pods.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The objective for the AN/ALQ-167 is 186 pods, there are currently 146. There are 25 AN/AST-6(V) production assets. The objective is to achieve a total of 50 pods. The current inventory for the AN/AST-4 is 25. Beginning in FY 1986, the AN/ALQ-167 and AN/AST-4 underwent improvements which enabled simulation of the current and near-term threats. The AN/ALQ-167 avionics are being upgraded. When these upgraded avionics are internally installed in aircraft, they are nomenclatured as AN/ULQ-21 systems. The AN/AST-4 has received an upgraded transmitter and is being integrated into a high-speed capable pod. This upgraded AN/AST-4 received an AN/AST-6(V) nomenclature designation in May 1987. Approval for full production will not be required for these pod modifications.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		11.5		2.2		2.2														0.0		15.9
PROCUREMENT																						0.0
Installation Kits																					0.0	0.0
Installation Kit - Unit Price																						0.0
Installation Kits N/R																						0.0
Installation Equipment	998	48.4	2	0.5	2	0.5	2	0.5	2	0.5	2	0.6	2	0.6	2	0.6	2	0.6	25	4.9	1,039	57.7
Installation Equipment N/R		0.2		*		*		*		*		*		*		*		*		0.1		0.4
Engineering Change Orders																						0.0
Data		0.1		*		*		*		*		*		*		*		*		0.1		0.3
Training Equipment		0.2																				0.2
Support Equipment		5.2																				5.2
ILS		0.7		*		*		*		*		*		*		*		*		0.2		1.2
Other Support		0.2																				0.2
Interim Contractor Support																						0.0
Installation Cost																						0.0
TOTAL PROCUREMENT		55.0		0.5		0.6		0.6		0.6		0.7		0.6		0.6		0.6		5.4		65.2

Totals may not add due to rounding.

* Asterisk reflects dollars less than \$50K.

Exhibit P-3a

CLASSIFICATION: UNCLASSIFIED

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE Cargo & Transport Aircraft Series Modifications					
Program Element for Code B Items:							Other Related Program Elements N/A					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY		A										
COST (In Millions)	29.8	A	21.1	25.3	16.3	7.9	6.1	5.6	5.8	5.0	23.7	146.6
<p>This line item funds modifications to the following cargo and transport aircraft: C-9B/DC-9, CT-39G, C-20C/D, RC-12F/M, UC-12B/F/M, NC-12B, TC-12B, C-26D,C-40A, UC-35 . The C-9B/DC-9 Skytrain II, CT-39G (Sabreliner), and C-20D (Gulfstream III) are all twin jet commercial transport aircraft. The C-9B/DC-9 is capable of carrying up to 32,000 pounds of both cargo and personnel for over 3,300 nautical miles at a maximum speed of 430+ knots while the CT-39G can carry personnel and light cargo over 1,800 nautical miles at a maximum speed of 415 knots. The C-20D/G are capable of high speed transport of 13 personnel over 4,100 nautical miles at 437 knots. The RC-12F/M, NC-12B, TC-12B and UC-12B/F/M are twin turbo-prop commercial transport aircraft (King Air) capable of a variety of general purpose transport and specialized missions. They can carry 8 people up to 1,300 nautical miles at 200 knots. The overall goal of the modifications budgeted in FY 2001 and out is to continue the FAA Configuration Updates to these cargo aircraft and Flight Safety Upgrades to C-12 Aircraft. The specific modifications budgeted and programmed are as follows:</p>												
(TOA, \$ in Millions)												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
71-86	FAA Configuration Updates	12.9	2.3	1.3	0.3	0.4	0.8	0.5	0.8	0.8	1.4	21.5
10-95	C-12 Global Positioning System (GPS)	7.3	2.8	1.7								11.8
09-97	C-9B/DC-9 Upgrade Standardization	9.5	12.9	17.2	10.2						10.9	60.7
12-98	C-20 Flight Safety Upgrade		2.2	1.1	0.6							3.9
13-98	CT-39 Global Positioning System (GPS)		0.6	0.6								1.1
14-98	C-12 Flight Safety Upgrade		0.4	3.4	5.3	7.5	5.3	2.7	2.5	2.6	11.5	41.1
XX-03	C-20 Flight Management System							2.4	2.5	1.6		6.5
	Total	29.8	21.1	25.3	16.3	7.9	6.1	5.6	5.8	5.0	23.7	146.6
Reserve funding included in Total			20.2	21.3	13.6	1.1	1.3	0.4	0.4	0.4		
Note: Totals may not add due to rounding.												

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

Federal Aviation Administration (FAA) Configuration Update (OSIP 71-86)

MODELS OF SYSTEMS AFFECTED:

C-9B/DC-9/C-20D/C-20G/UC-12B/UC-12F/UC-12M/RC-12F/RC-12M/TC-12B/NC-12B
CT-39G/C-26D/UC-35/C-40A

TYPE MODIFICATION:

SAFETY/RELIABILITY/MAINTAINABILITY

DESCRIPTION/JUSTIFICATION: Federal Aviation Regulations require manufacturers of commercial aircraft and associated systems/subsystems to investigate discrepant conditions, failures, and potential safety problems reported by all operators. The results of these investigations with recommended corrective action are reviewed/approved by the FAA and Navy and provided to all operators as service bulletins. Each service bulletin is a complete technical directive that provides corrective change information or detailed modification instructions. To ensure safe, reliable, FAA/Navy certified aircraft and to provide a program that will assure continued life extension at minimum cost, the Navy must maintain configuration and integrity compatible with FAA certified commercial models by incorporation of applicable service bulletins. The incorporation of certain service bulletins also serves to preclude extensive repairs/repetitive inspections. Crew equipment requirements in accordance with FAA directives and Navy requirements will be incorporated to ensure maximum safety in case of emergency. Specific modifications budgeted in this OSIP include the incorporation of C-9B/DC-9, C-20, and C-12 FAA Bulletins and Directives.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Service Bulletins are reviewed for possible incorporation on an as required basis. Prototype verification has been previously accomplished and approved by the FAA.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
C-12			4	0.4	34	0.4	24	0.3											40	0.5	102	1.5
C-20	100	0.1	32	0.1	26	0.1			29	0.1	51	0.2	35	0.1							273	0.6
C-9	268	4.3	23	0.6	11	0.3					2	0.1	1	0.1	15	0.7	15	0.7	11	0.5	346	7.3
CT-39	111	1.1																			111	1.1
C-26																						
Installation Kits N/R		1.7		0.8		*				*	0.0		0.1		*		*					2.8
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1		0.1		*				*			*		*		*		*		*	0.2
Training Equipment																						
Support Equipment																						
ILS				*		*				*												0.0
Other Support				0.1		0.2							0.1									0.3
Interim Contractor Support						0.1							0.0							0.1		0.3
Installation Cost	479	5.7	59	0.3	47	0.2			77	0.3	53	0.4	36	0.1	11	0.1	11	0.1	59	0.2	832	7.5
Total Procurement		12.9		2.3		1.3		0.3		0.4		0.8		0.5		0.8		0.8		1.4		21.5

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-9B/DC-9//C-20D/C-20G/UC-12B/UC-12F/UC-12M/RC-12F
/RC-12M/TC-12B/CT-39G/C-26D

MODIFICATION TITLE:Federal Aviation Administration (FAA) Configuration Update (OSIP 71-86)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Depot

ADMINISTRATIVE LEADTIME: Various Months PRODUCTION LEADTIME: Various Months

CONTRACT DATES: FY 1998: Various FY 1999: Various FY 2000: Various FY 2001: Various

DELIVERY DATE: FY 1998: Various FY 1999: Various FY 2000: Various FY 2001: Various

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (538) kits	479	5.7	59	0.3																	538	6.0
FY 1999 (71) kits					47	0.2			24	0.1											71	0.3
FY 2000 (24) kits									24	0.1											24	0.1
FY 2001 (29) kits									29	0.1											29	0.1
FY 2002 (53) kits											53	0.4									53	0.4
FY 2003 (36) kits													36	0.1							36	0.1
FY 2004 (15) kits															11	0.1	4	0.0			15	0.2
FY 2005 (15) kits																	7	0.1	8	*	15	0.1
To Complete (51) kits																			51	0.2	51	0.2
TOTAL	479	5.7	59.0	0.3	47	0.2			77	0.3	53	0.4	36	0.1	11	0.1	11	0.1	59	0.2	832	7.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
In	479	20	20	19			15	15	17						26	26	25		18	18	17			12	12	12
Out	479		20	20	19		15	15	17						26	26	25		18	18	17			12	12	12

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In		4	4	3		7	4		59	832
Out		4	4	3		4	7		59	832

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 10-95)MODELS OF SYSTEMS AFFECTED: UC-12B/F/M, RC-12F/MTYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The recent crash of the U.S. Air Force CT-43 while flying a non-directional radio beacon (NDB) instrument approach has resulted in a Department of Defense initiative to ensure installation as soon as possible of GPS capability in all aircraft carrying passengers (SecDef Memo 9 April 96). UC-12 GPS installation was originally planned to meet the DOD requirement for FY-2000. Air Force and Navy program managers cooperated in an effort to identify suitable commercial GPS equipment adaptable for precision positioning capability when required. The proposed installation schedule was delayed and funding reprogrammed until authorization for procurement of commercial units was approved. ASD (C31) memorandum of October 18, 1995 granted authorization for the Navy to procure commercial GPS user equipment for Contractor Logistics Support (CLS) aircraft that are equipped with commercial avionics systems. With the reprogramming of funds as depicted below, the UC-12 program can comply with the DOD installation initiative to install GPS as soon as possible on all eighty seven (87) aircraft in the inventory which include models UC-12B/F/M and RC-12F/M. Procurement of "A" and "B" kits must be 1:1 in order to meet operational and training requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The GPS program has completed phase II (Full scale engineering development). Milestone IIIA (approval for limited production) was completed in June 1986; approval for full production, Milestone IIIB, was completed January 1992.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
GPS Kits	162	7.3																			162	7.3
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost			128	2.8	34	1.7															162	4.5
Total Procurement		7.3		2.8		1.7																11.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UC-12B/F/M, RC-12F/M

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 10-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

FY 2001: N/A

DELIVERY DATE: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

FY 2001: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (162) kits			128	2.8	34	1.7															162	4.5
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			128	2.8	34	1.7															162	4.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In				64	64				34																
Out				64	64				34																
		FY 2004				FY 2005				To Complete	TOTAL														
In											162														
Out											162														

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: UPGRADE STANDARDIZATION (OSIP 9-97)MODELS OF SYSTEMS AFFECTED: C-9B / DC-9 AIRCRAFTTYPE MODIFICATION: SAFETY / RELIABILITY / MAINTAINABILITY

DESCRIPTION/JUSTIFICATION: Urgent upgrade of avionics in all 29 C-9B / DC-9 aircraft is required for operation in controlled airspace, installation of mandated systems, and to replace obsolete, out of production systems for which the FAA certified commercial repair support is rapidly diminishing. The FAA and ICAO require updating communications, data link, and navigation systems for continued operations in controlled international airspace. Without these new COTS / NDI systems, these USMC / NAVRESFOR aircraft cannot support the CINC's for trans-oceanic and European missions, and in the near future for United States airspace. Without these critical safety features, including collision avoidance and predictive wind sheer alerts, the safety of the C-9 as well as other aircraft operating in increasingly congested airspace may be jeopardized. Additionally, most of the avionics systems / components are obsolete and out of production. Replacement parts and repair facilities have been diminished as a result of commercial DC-9 operators upgrading to state of the art equipment, resulting in increased repair costs. As soon as the existing commercial stock of obsolete or out of production items is depleted, support / spares will be nonexistent. Requirements document is Mission Needs Statement N81/5U648370 of Jul 95. Lockheed ECP's 1/2/3 apply for this ACAT IVM program that passed Milestone III Approval for Full Rate Production in Jun 97.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: A. Phase I began in FY97 and installed a kit to provide urgently needed collision avoidance, updated radios and navigation aids simultaneously with installation of GPS navigation systems under related OSIP 9-95. Prototype installation began during FY97. Testing was completed Oct 97. Initial Operating Capability was reached Nov 97. Last of 29 C-9B/DC-9 aircraft was completed Fall 98. B. Phase II kit installation will begin during FY99. The 17 C-9B aircraft will be provided with the remaining needed items (predictive wind sheer alert radar, enhanced ground proximity warning system, cockpit integrated computer displays). The Critical Design Review was completed 24 Feb 1999. The prototype and first delivery Phase II C-9B aircraft occur during FY99. Kit and Technical Directive Verification and Validation occur in FY99 and early FY00 on the second and third aircraft. Six DC-9 aircraft are listed as "to complete" if funds become available.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Phase 1 Kit	29	6.1																			29	6.1
Phase 2 Kit			4	3.6	13	12.5													6	5.8	23	21.9
Installation Kits N/R		1.9		1.9		2.2		0.8												0.7		7.5
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Kit ECO		*		*		*		0.1												0.2		0.5
Data		0.2		0.3		0.3		0.2												0.2		1.2
Training Equipment		0.2		0.2		0.3		0.1												0.1		0.7
Support Equipment																						
ILS		0.1		*		*		0.1														0.3
Other Support																						
Interim Contractor Support																						
Installation Cost	4	1.1	25	6.9	3	1.9	14	8.8											6	3.8	52	22.5
Total Procurement		9.5		12.9		17.2		10.2												10.9		60.7

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: C-9B / DC-9 AIRCRAFTMODIFICATION TITLE: UPGRADE STANDARDIZATION (OSIP 9-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: All hardware is COTS/ NDI avionics that will be procured to prepare 29 Phase 1 kits & 23 Phase 2 kits for installation by / at the C-9 Depot maintenance contractor facilities.ADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 10 MonthsCONTRACT DATES: FY 1998: Dec-97 FY 1999: Dec-98 FY 2000: N/A FY 2001: DELIVERY DATE: FY 1998: Oct-98 FY 1999: Oct-99 FY 2000: N/A FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (33) kits	4	1.1	25	6.9	3	1.9	1	0.6													33	10.5
FY 1999 (13) kits							13	8.2													13	8.2
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete (6) kits																			6	3.8	6	3.8
TOTAL	4	1.1	25	6.9	3	1.9	14	8.8											6	3.8	52	22.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	4	5	8	7	5		1		2	4	4	4	2												
Out		5	7	8	7	2			1	2	4	4	6												

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									6	52
Out									6	52

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Flight Safety Upgrade (OSIP 12-98)MODELS OF SYSTEMS AFFECTED: C-20 D/GTYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: This modification provides C-20 D/G aircraft with Traffic Collision Alert System (TCAS) and the Enhanced Ground Proximity Warning System (EGPWS). TCAS provides Air traffic collision avoidance capabilities to C-20D/G aircraft. EGPWS provides ground proximity warning information. The TCAS 2000 and EGPWS (with wind shear detection) are SECNAV requirements. The Navy Program Office will utilize the original equipment manufacturer to identify suitable commercial equipment. TCAS 2000 will be installed in all seven C-20 D/G aircraft in the inventory. The wind shear detection system component of EGPWS will be installed in two C-20D aircraft. EGPWS will be installed in five C-20G aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: FAA approved Supplement Type Certifications (STC) have been approved and commercial off the shelf (COTS) equipment will be purchased with subsequent installation to begin within 90 days.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
C-20 Flight Safety Upgrade Kits			2	0.7	10	0.5	2	0.4													14	1.5
Installation Kits N/R				0.8																		0.8
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.4		0.1		0.1														0.6
Training Equipment																						
Support Equipment																						
ILS				0.1		0.1																0.2
Other Support				0.2																		0.2
Interim Contractor Support																						
Installation Cost			2	0.1	10	0.4	2	0.1													14	0.7
Total Procurement				2.2		1.1		0.6														3.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: C-20D/GMODIFICATION TITLE: Flight Safety Upgrade (OSIP 12-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Kits to be installed by Maintenance contractor at Depot.ADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 1 MonthsCONTRACT DATES: FY 1998: Dec-97 FY 1999: Dec-98 FY 2000: Dec-99 FY 2001: _____DELIVERY DATE: FY 1998: Jan-98 FY 1999: Jan-99 FY 2000: Jan-00 FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (2) kits			2	0.1																	2	0.1
FY 1999 (10) kits					10	0.4															10	0.4
FY 2000 (2) kits							2	0.1													2	0.1
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			2	0.1	10	0.4	2	0.1													14	0.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					2		4	4	2	2															
Out					2		3	3	2	2	2														

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										14
Out										14

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: CT-39 Global Positioning System (OSIP 13-98)MODELS OF SYSTEMS AFFECTED: CT-39G AircraftTYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The Global Positioning System (GPS) is a space-based radio positioning system that will provide three-dimensional position, velocity and time information to suitably equipped users on or near the earth. Installation of the Allied Signal GNS XLS GPS in the CT-39G aircraft will allow continual operation of CT-39G aircraft in U.S. National Airspace (aircraft without an operational GPS will not be allowed in controlled U.S. Airspace). Installation of GPS is directed by Assistant Secretary of Defense Memorandum of 1 December 1994, Subj: Commercial Global Positioning System Receivers for T-44, TH-57, T-34 and T-39 aircraft. There are a total of 9 CT-39G aircraft in the USN inventory; all 9 will receive GPS installation via an Engineering Change Proposal provided by Avtel, Inc. A GPS kit consists of a computer, antenna, wiring, and mounting hardware.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The GPS to be installed will be a commercially available, non-developmental item (NDI).

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
GPS Kit			4	0.3	5	0.3															9	0.7
XXX Kit																						
Installation Kits N/R				0.2																		0.2
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost			1	*	8	0.2															9	0.3
Total Procurement				0.6		0.6																1.1

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: **CT-39G Aircraft**MODIFICATION TITLE: **CT-39 Global Positioning System (OSIP 13-98)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Contractor Installed KitsADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 1 MonthsCONTRACT DATES: FY 1998: Jan-98FY 1999: Dec-98FY 2000: N/A

FY 2001: _____

DELIVERY DATE: FY 1998: Feb-98FY 1999: Jan-99FY 2000: N/A

FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (4) kits			1	*	3	0.1															4	0.1
FY 1999 (5) kits					5	0.1															5	0.1
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL			1	*	8	0.2															9	0.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					1		3	3	2																
Out						1	3	3	2																

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										9
Out										9

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Flight Safety Upgrade (OSIP 14-98)MODELS OF SYSTEMS AFFECTED: UC-12B/F/M, TC-12B, RC-12F/M, NC-12BTYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The crash of a U.S. Air Force CT-43 while flying a non-directional radio beacon (NDB) approach has resulted in a Department of Defense initiative to upgrade Flight Safety systems installations as soon as possible in all passenger carrying aircraft. This OSIP ensures compliance with this initiative on 81 C-12 model aircraft and identifies flight safety systems required to provide capability /upgrade to directed requirements. All C-12 aircraft require installation of Enhanced Ground Proximity Warning Systems (EGPWS), Windshear Detection Systems (WDS) and Traffic Collision Avoidance Systems (TCAS II). The C-12B aircraft require upgrades to provide a more reliable radar altimeters. Forty-six (46) UC-12B aircraft require color radar to support upgrade enhancements. Procurement of "A" and "B" kits must be 1:1 in order to meet operational and training requirements. NRE funding identified in FY 04 provides software upgrades for RC-M model (RANSAC) aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Systems are Commercial of the Shelf (COTS) and do not require development. System prototype is required in five aircraft.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Flight Safety Upgrade Kits					6	0.7	14	2.5	36	5.8	20	3.2	10	1.6	10	1.6	12	1.9	54	8.6	162	25.9
Installation Kits N/R				0.3		2.3		1.7		0.7		0.4				0.1				0.1		5.6
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data								0.2														0.2
Training Equipment						0.2		0.6		0.2		0.2		0.2		0.2		0.2		0.2		2.1
Support Equipment																						
ILS																						
Other Support				0.1		0.2		0.3		0.0		0.2		0.2		0.2		0.1		0.2		1.5
Interim Contractor Support										0.3												0.3
Installation Cost							6		14	0.5	36	1.3	20	0.7	10	0.4	10	0.4	66	2.3	162	5.5
Total Procurement				0.4		3.4		5.3		7.5		5.3		2.7		2.5		2.6		11.5		41.1

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UC-12B/F/M, TC-12B, RC-12F/M, NC-12B MODIFICATION TITLE: Flight Safety Upgrade (OSIP 14-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Installed Kits

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 1998: N/A FY 1999: Jun-99 FY 2000: Dec-99 FY 2001: Dec-00

DELIVERY DATE: FY 1998: N/A FY 1999: Aug-99 FY 2000: Feb-00 FY 2001: Feb-01

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (6) kits							6														6	
FY 2000 (14) kits									14	0.5											14	0.5
FY 2001 (36) kits											36	1.3									36	1.3
FY 2002 (20) kits													20	0.7							20	0.7
FY 2003 (10) kits															10	0.4					10	0.4
FY 2004 (10) kits																	10	0.4			10	0.4
FY 2005 (12) kits																			12	0.4	12	0.4
To Complete (54) kits																			54	1.9	54	1.9
TOTAL							6		14	0.5	36	1.3	20	0.7	10	0.4	10	0.4	66	2.3	162	5.5

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											6			4	4	4	2	10	10	10	6	6	6	6	2
Out												2	4	4	4	4	2	10	10	10	6	6	6	6	2

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	3	3	3	1	3	3	3	1	66	162
Out	3	3	3	1	3	3	3	1	66	162

Exhibit P-40, BUDGET ITEM JUSTIFICATION										DATE: February 2000			
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE E-6A Series Modifications					
Program Element for Code B Items:								Other Related Program Elements					
	Prior Years	ID Code		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY		A											
COST (In Millions)	411.1	A		86.9	63.8	84.7	60.7	71.6	50.4	11.5	7.4	7.7	856.0
This line item funds modifications to E-6A TACAMO aircraft. The E-6A TACAMO is a manned airborne communications relay platform designed to provide a survivable communications link from the National Command Authority (NCA) to strategic forces. The Navy and Air Force have been directed to take actions necessary to incorporate Airborne Command Post (ABNCP) functions into the E-6A. The overall goal of the modifications budgeted in FY 2001 is to continue MILSTAR and HPTS mission avionics upgrades and consolidation of JCS strategic command and control tasking. OSIPs 24-92, Avionics Block Upgrade, and 32-93, Airborne Command Post, were combined in FY 1995 as the modifications had been fully integrated by the contractors. At the beginning of FY98 additional ABNCP requirements were included OSIP 32-93. Completion of these modifications results in aircraft being reclassified as E-6B aircraft. The Multifunction Display System, OSIP 27-99, was approved as the solution to maintaining worldwide deployability due to changing Global Air Traffic Management/Global Air Navigation System standards. In FY 01 the Modified Miniature Receiver Terminal will be installed to enhance command and control of the strategic forces. In order to correct safety discrepancies, OSIP XX-02 was initiated which includes smoke and fire detection systems, SDRS upgrades and installation of a Crash Surviveable Memory Unit. The specific modifications budgeted and programmed are:													
(TOA, \$ in Millions)													
OSIP No.	Description	Prior Years		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
32-93	E-6B Mod	411.1		86.9	51.8	63.7	38.6	35.8	8.8				696.8
27-99	Multifunction Display System				12.0	21.0	19.0	29.0	39.1	4.3		6.0	130.4
10-01	E-6B Modified Mini Rcv Terminal						3.0	6.0				1.7	10.7
XX-02	Safety Deficiencies							0.9	2.5	7.2	7.4		18.0
Total		411.1		86.9	63.8	84.7	60.7	71.6	50.4	11.5	7.4	7.7	856.0
Note: Totals may not add due to rounding.													

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: E-6B Modifications (OSIP 32-93)MODELS OF SYSTEMS AFFECTED: E-6ATYPE MODIFICATION: Public Law/Capability

DESCRIPTION/JUSTIFICATION: Mission Needs Statement: E-6A TACAMO/Airborne Command Post (ABNCP) Consolidation Program, MO-40-88-93, dated 22 Sep 93, substantiates the transfer of avionics equipment from the Air Force EC-135 ABNCP platform to the Navy E-6A TACAMO aircraft. This program consolidates JCS Strategic Command and Control tasking into one survivable airborne strategic platform and achieves significant operations and maintenance savings of minimally \$50M annually. The addition of the ABNCP mission to the TACAMO aircraft results in one platform having the ability to relay emergency action messages from the National Command Authorities to U. S. Strategic Forces and for CINCSTRAT to directly execute command and control of those forces. Operational Requirements Document (ORD) 389-88-98, Revised 20 Mar 97, supports modifications for the High Power Transmit Set, Original ABNCP avionics systems and MILSTAR capabilities. These are encompassed in ECP CTAS-100R3. ORD 389-88-95, revised 14 Aug 98, includes newly identified requirements including approved ECP RCS-100R1 for Voice Satellite (VOSAT) Communications and future ECPs for Cryptographic (CRYPTO) equipment upgrades, UHF DAMA installation, Automated Data Processing Capability and Utility Trailing Wire Antenna removal. VOSAT capability is a voice recognition system that is required by CINCSTRAT for uncompromised communications, CRYPTO upgrade is required by CINCSTRAT to ensure ABNCP receipt and distribution of encrypted messages in accordance with relay timing parameters. UHF DAMA is required for communications across the spectrum of Command and Control responsibilities. ADP capability is required by CINCSTRAT for efficient operations by the embarked Battle Staff and for the capability to receive and generate encrypted and classified correspondence. The UTWA removal is required to offset the effects of other mods on zero gross fuel weight parameters. These modifications will be applied to all 16 E-6As in the active fleet inventory. This modification program is not applicable to any aircraft in either the National Guard or the Reserve.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Milestone III decision on ABNCP modifications granted January 1995. Milestone III decision for Avionics Upgrade and HPTS granted December 1995. FOT&E completed June 1998. Eight E-6B aircraft delivered to the fleet to date. Initial Operating Capability (IOC) date of 1 October 1998 was met. September message from CINCUSSTRATCOM delineated additional requirements and associated program cost growth resulted in program restructure with Full Operating Capability shifting from January 2001 to February 2003. IOC for VOSAT modification was 1 October 1998 and IOC for CRYPTO is 1 July 2000. ECPs will be processed for CRYPTO, UHF DAMA, ADP and UTWA modifications as programs mature. Program restructured for FY01 reduction of 1 kit and 1 install due to N88 balancing with replacement kit scheduled for FY02 and installation scheduled for FY03.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E	1	107.3																			1	107.3
PROCUREMENT																						
Installation Kits																						
HPTS Kit	13	16.3	3	3.4																	16	19.7
ABNCP Kit	8	25.6	1	4.2	2	8.9	2	8.8	1	5.2	1	5.3									15	58.0
VOSAT Kit			10	0.2	2	*	2	*	1	*	1	*									16	0.3
CRYPTO Kit					12	0.8	3	0.2	2	0.2	1	0.2									18	1.3
DAMA Kit							7	1.4	8	1.7	1	0.3									16	3.4
UTWA Kit							7	0.1	8	0.1	1	*									16	0.3
ADP Kit							7	0.8	8	0.8	1	0.1									16	1.8
Installation Kits N/R		35.3		5.0		2.6		5.3		1.2												49.4
Installation Equipment																						
HPTS/CFA Equip	15	115.7	3	23.5																	18	139.3
ABNCP Equip	8	20.2			2	3.4	2	3.5	1	2.1	1	2.1									15	33.1
VOSAT Equip			10	1.3	2	0.3	2	0.3	1	0.2	1	0.2									16	2.2
CRYPTO Equip					10	0.3	3	0.1	2	0.1	1	0.1									16	0.4
DAMA Equip							7	3.8	8	4.5	1	0.7									16	9.0
UTWA Equip							7	0.1	8	0.1	1	*									16	0.2
ADP Equip							7	3.0	8	3.0	1	0.6									16	6.6
MILSTAR Equip	7	38.1																			7	38.1
HPTS TIMING DIV Equip	19	5.8																			19	5.8
SDRS Equip	1	0.6																			1	0.6
Installation Equipment N/R		18.7				4.7		6.6		0.5												30.4
Engineering Change Orders																						
Data		21.2		0.8		1.1		1.4		0.3		0.2										24.8
Training Equipment	6	24.7	2	8.7	1	2.7	4	2.1	2	1.4											15	39.6
Support Equipment		5.7		0.5																		6.2
ILS		11.0		2.2		1.8		2.6		0.1		0.3										18.0
Other Support		54.7		19.8		12.8		8.9		2.4		5.3		0.9								104.6
Interim Contractor Support		1.1																				1.1
Installation Cost	15	16.4	15	15.7	7	12.5	22	14.6	34	15.0	31	20.5	7	8.0							131	102.8
Total Procurement		411.1		86.9		51.8		63.7		38.6		35.8		8.8								696.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$51K
3. 1 ABCNP Prototype Kit procured in R&D.
4. Installation quantities include HPTS and ABNCP kits separately to account for kit purchases although they were combined for installation purposes in 1996.
5. Installation Kits include 4 lab kits (2 Crypto kits in FY 99, 1 UTWA kit in FY 00 and 1 ADP kit in FY 00). In addition install equipment kits in FY 99 for Crypto include 2 lab kits.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-6AMODIFICATION TITLE: E-6B Modifications

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Drive-in/Field ModificationADMINISTRATIVE LEADTIME: 1 MonthsPRODUCTION LEADTIME: 15 MonthsCONTRACT DATES: FY 1998: Nov-97 FY 1999: Nov-98 FY 2000: Nov-99 FY 2001: Nov-00DELIVERY DATE: FY 1998: Feb-99 FY 1999: Feb-00 FY 2000: Feb-01 FY 2001: Feb-02

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (36) kits	10	12.4	14	15.5	6	12.3	2	5.8	1	2.9	2	6.5	1	3.2							36	58.5
FY 1999 (14) kits							14	7.5													14	7.5
FY 2000 (28) kits							3	1.0	23	9.1	2	3.4									28	13.5
FY 2001 (28) kits									3	1.0	25	10.1									28	11.1
FY 2002 (6) kits													6	5							6	4.7
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	10	12.375	14	15.498	6	12.276	19	14.262	27	12.975	29	19.994	7	7.979							112	95.4

Note: Installations do not include 15 Trainers, 2 Crypto kits, 1 ADP kit, and 1 UTWA kit, but does include 1 kit bought in R&D in prior years.

Note: Monthly Phasing Schedules reflect only installations to Aircraft. They do not include Trainer installations.

HPTS Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	5		2	1			1		1		1		1		1		1			1		1			
Out	2	2		1	2	1			1		1		1		1		1			1		1		1	

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out										16

ABNCP Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	5		2		1		1		1		1		1		1		1			1			1		
Out	1	2	1	1	1		2		1		1		1		1		1			1		1			1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out										16

Exhibit P-3a

VOSAT Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					8		1		1		1		1		1			1		1			1		
Out					6	1	1		1		1		1		1			1		1			1		1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out										16

CRYPTO Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											2	4	4	1	1	1		1			1		1		
Out											1	3	6	1	1	1		1			1		1		

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out	1									16

DAMA Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													1	1	2	3	1	3	2	2			1		
Out														1	2	3	1	3	2	2			1		1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out										16

UTWA Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													1	1	2	3	1	3	2	2			1		
Out														1	2	3	1	3	2	2			1		1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out										16

Exhibit P-3A

ADP Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													1	1	2	3	1	3	2	2			1		
Out														1	2	3	1	3	2	2			1		1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out										16

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Multifunction Display System (OSIP 27-99)MODELS OF SYSTEMS AFFECTED: E-6BTYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) 389-88-98, revised 14 Aug 98, requires installation of MDS. Current and future changes to Global Air Traffic Management/Global Air Navigation Systems required by FAA/ICAO are satisfied by the installation of the Multifunction Display System. Modifications to E-6 cockpit display system are required due to changes in the FAA/ICAO Required Vertical Separation Minimums and other airspace restrictions. Analog guages are becoming antiquated and difficult to maintain and require replacement in order to meet these and upcoming navigational changes. Incorporation of MDS into the cockpit will replace over 100 dials and guages with integrated display screens that are customizable for the E-6. This Multifunction Display System requires modification to a Commercial Off The Shelf item for an E-6 configuration and because it is similar to commercial industry, any further modifications will be less costly. Upgrades to installed systems and changes to Mission Computer Systems can then be accomplished by changing software without changing the hardware.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Multifunction Display System was granted a Milestone III decision on 9 May 1998. Contract award September, 1999. Specific and separate NRE efforts for systems integration of COTS hardware/software to occur in first two years. Production of NRE COTS article for E-6 configuration Oct 00 with subsequent installation and testing beginning in February 01. Production deliveries/installations funded through September 04. Funding provided via PDM-1 requires partial spread of NRE efforts. Cost growth from original estimates allows for 1 NRE A/C Kit/Installation, 15 Production A/C Kits/Installations and 1 Flight Trainer Kit/Install. Initial Operating Capability scheduled for July 03.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
MDS Kit									1	1.3	2	1.4	5	3.6	8	6.1							16	12.3
Installation Kits N/R								11.4		8.5		0.2												20.1
Installation Equipment																								
MDS Equip									1	9.1	2	11.3	5	18.3	8	23.7							16	62.5
Installation Equipment N/R																								
Engineering Change Orders																								
Data									0.5															0.5
Training Equipment											1	1.0		1.3	1	2.6					1	1.8	3	6.7
Support Equipment																								
ILS								0.1		0.6		0.5		0.2		0.1		0.1						1.4
Other Support								0.5		1.0		1.3		1.2		1.2		0.1						5.3
Interim Contractor Support																								
Installation Cost											1	3.3	3	4.4	6	5.5	8	4.2			1	4.2	19	21.6
Total Procurement								12.0		21.0		19.0		29.0		39.1		4.3				6.0		130.3

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E-6B**

MODIFICATION TITLE: Multifunction Display System (OSIP 27-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Contractor Drive In Modification

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 10 Months

CONTRACT DATES: FY 1999: N/A FY 2000: Nov-99 FY 2001: Nov-00

DELIVERY DATE: FY 1999: N/A FY 2000: Oct-00 FY 2001: Oct-01

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																								
FY 1999 () kits																								
FY 2000 (1) kits											1	3.3											1	3.3
FY 2001 (2) kits													2	2.1									2	2.1
FY 2002 (5) kits															5	5.2							5	5.2
FY 2003 (8) kits																	8	4.2					8	4.2
FY 2004 () kits																								
FY 2005 () kits																								
To Complete () kits																								
TOTAL											1	3.3	2	2.1	5	5.2	8	4.2					16	14.7

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
In																1			1	1			1	1	1	2
Out																	1			1			1	1	1	2

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	1	2	2	3						16
Out	1	2	2	2	2					16

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Modified Miniature Receive Terminal (OSIP 10-01)MODELS OF SYSTEMS AFFECTED: E-6BTYPE MODIFICATION: Obsolescence

DESCRIPTION/JUSTIFICATION: The Air Force E-4B and the Navy E-6B comprise the World Wide Military Command and Control System (WWMCCS) Airborne Resources (WABNRES). They operate within the Nuclear Command and Control System (NCSS) serving principally as a survivable command and control communications link between the National Command Authorities (NCA) and U.S. strategic forces. The WABNRES assets have a requirement to receive very low frequency/low frequency (VLF/LF) Emergency Action Messages (EAMs) and to communicate with one another in a nuclear jamming stressed environment. The OSD Strategic C3 Review of 3 September 1991 outlined a new strategic airborne command and control architecture. Key to this revised architecture is a modernization of the E-4B/E-6B VLF/LF capability to include the implementation of the High Data Rate (HIDAR) mode. As stated in the Joint Mission Need Statement for Very Low Frequency/Low Frequency (VLF/LF) receive capability for Strategic Command, Control, and Communications, CAF 330-92, the current VLF/LF receivers (R-2141) on the E-6B are outdated and the R-616A cannot be modified to incorporate the HIDAR mode. The Modified Miniature Receive Terminal (MMRT) provides the E-6B with reliable VLF/LF receive capability that will insure interoperability and connectivity with the forces in support of the new C3 architecture.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Joint program with Air Force as lead service. Preliminary Design Review completed. Critical Design Review completed March 1998. Prototype installation achieved October 1999. Contractor Test/Developmental Test achieved November/December 1999. Congress reduced FY00 funding to \$0 due to program slippage. Initial Operational Test and Evaluation scheduled to begin February 2000. Milestone III decision anticipated July 2000.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E					1																1	
PROCUREMENT																						
Installation Kits																						
MMRT Kit									9	0.9	7	0.7									16	1.6
Installation Kits N/R																						
Installation Equipment																						
MMRT Equip									9	0.2	7	0.1									16	0.3
Installation Equipment N/R																						
Engineering Change Orders																						
Data										0.0		0.1								0.7		0.8
Training Equipment									2	0.2	2	0.2								0.4	4	0.7
Support Equipment																						
ILS										0.1		0.1								0.1		0.3
Other Support										0.2		0.2								0.2		0.5
Interim Contractor Support										0.1												0.1
Installation Cost									3	1.5	14	4.7							1	0.4	18	6.6
Total Procurement										3.0		6.0								1.7		10.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. 1 Kit procured and installed under Air Force R&D Program.
4. Installation kits procured in FY00 include 1 SIL kit.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-6AMODIFICATION TITLE: Modified Miniature Receive Terminal (OSIP 10-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Contractor Field ModificationADMINISTRATIVE LEADTIME: 2 MonthsPRODUCTION LEADTIME: 9 MonthsCONTRACT DATES: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: Dec-00DELIVERY DATE: FY 1998: N/A FY 1999: N/A FY 2000: N/A FY 2001: Aug-01

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (1) kits					1																1	
FY 2000 () kits																						
FY 2001 (8) kits									1	0.4	7	2.3									8	2.7
FY 2002 (7) kits											6	1.9							1	0.4	7	2.3
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					1				1	0.4	13	4.2							1	0.4	16	5.0

Totals do not include 2 trainer and 1 SIL installation.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							1										1	3	3	3	4				
Out							1											3	4	3	4				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									1	16
Out									1	16

# Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE: February 2000																																																																																																												
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE Executive Helicopter Modifications																																																																																																												
Program Element for Code B Items:								Other Related Program Elements																																																																																																												
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																								
QTY		A																																																																																																																		
COST (In Millions)	208.4	A	19.7	26.5	12.7	7.6	8.6	4.0	10.9	10.4	69.0	377.8																																																																																																								
<p>This line item funds modifications to the (11) VH-3D and (8) VH-60N Executive Helicopters. These aircraft are assigned to Marine Helicopter Squadron One to support the President of the United States. The VH-3D Service Life Extension Program (SLEP) consists of airframe, mechanical, and electrical upgrades which will increase the service life from 7,500 to 14,000 hours and thereby extend the executive mission life from the year 1998 past the year 2010. The VH-60N mid-life upgrade will provide improved mission performance. The Communications/Navigation/Survivability modification to both the VH-3D and VH-60N consists of a communications system upgrade to provide communications commonality between Executive Helicopters, Air Force One, and N-Cap; a Miniaturized Airborne GPS Receiver (MAGR); and a tailored electronic warfare (EW) suite. The overall goal of modifications budgeted in FY 2001 is to continue procurement efforts in accordance with the planned procurement strategy implemented during FY 1993.</p> <p>The specific modifications budgeted and programmed are:</p> <div style="text-align: center; margin: 10px 0;">(TOA, \$ in Millions)</div> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">OSIP No.</th> <th style="text-align: left;">Description</th> <th style="text-align: center;">Prior Years</th> <th style="text-align: center;">FY 1998</th> <th style="text-align: center;">FY 1999</th> <th style="text-align: center;">FY 2000</th> <th style="text-align: center;">FY 2001</th> <th style="text-align: center;">FY 2002</th> <th style="text-align: center;">FY 2003</th> <th style="text-align: center;">FY 2004</th> <th style="text-align: center;">FY 2005</th> <th style="text-align: center;">To Complete</th> <th style="text-align: center;">Total</th> </tr> </thead> <tbody> <tr> <td>07-89</td> <td>VH-60N Navstar GPS</td> <td style="text-align: center;">6.4</td> <td style="text-align: center;">0.3</td> <td style="text-align: center;">0.2</td> <td style="text-align: center;">0.1</td> <td style="text-align: center;">0.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">6.9</td> </tr> <tr> <td>25-90</td> <td>VH-3D Safety, Reliability and Service Life Extension Program (SLEP)</td> <td style="text-align: center;">105.6</td> <td style="text-align: center;">7.1</td> <td style="text-align: center;">3.6</td> <td style="text-align: center;">3.3</td> <td style="text-align: center;">0.3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">119.9</td> </tr> <tr> <td>27-92</td> <td>VH-3D Navstar GPS</td> <td style="text-align: center;">3.2</td> <td style="text-align: center;">0.3</td> <td style="text-align: center;">0.1</td> <td style="text-align: center;">0.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">3.7</td> </tr> <tr> <td>22-93</td> <td>Executive Helicopter Survivability Program</td> <td style="text-align: center;">62.8</td> <td style="text-align: center;">8.4</td> <td style="text-align: center;">19.3</td> <td style="text-align: center;">8.2</td> <td style="text-align: center;">6.5</td> <td style="text-align: center;">5.7</td> <td style="text-align: center;">2.4</td> <td></td> <td></td> <td></td> <td style="text-align: center;">113.4</td> </tr> <tr> <td>23-93</td> <td>VH-60N Mid-Life Upgrade</td> <td style="text-align: center;">30.4</td> <td style="text-align: center;">3.6</td> <td style="text-align: center;">3.3</td> <td style="text-align: center;">1.0</td> <td style="text-align: center;">0.8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">39.1</td> </tr> <tr> <td>-02</td> <td>VH-60N Cockpit Upgrade</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">2.9</td> <td style="text-align: center;">1.6</td> <td style="text-align: center;">10.9</td> <td style="text-align: center;">10.4</td> <td style="text-align: center;">69.0</td> <td style="text-align: center;">94.8</td> </tr> <tr> <td>Total</td> <td></td> <td style="text-align: center;">208.4</td> <td style="text-align: center;">19.7</td> <td style="text-align: center;">26.5</td> <td style="text-align: center;">12.7</td> <td style="text-align: center;">7.6</td> <td style="text-align: center;">8.6</td> <td style="text-align: center;">4.0</td> <td style="text-align: center;">10.9</td> <td style="text-align: center;">10.4</td> <td style="text-align: center;">69.0</td> <td style="text-align: center;">377.8</td> </tr> </tbody> </table> <p>Note: Totals may not add due to rounding.</p>													OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total	07-89	VH-60N Navstar GPS	6.4	0.3	0.2	0.1	0.1						6.9	25-90	VH-3D Safety, Reliability and Service Life Extension Program (SLEP)	105.6	7.1	3.6	3.3	0.3						119.9	27-92	VH-3D Navstar GPS	3.2	0.3	0.1	0.1							3.7	22-93	Executive Helicopter Survivability Program	62.8	8.4	19.3	8.2	6.5	5.7	2.4				113.4	23-93	VH-60N Mid-Life Upgrade	30.4	3.6	3.3	1.0	0.8						39.1	-02	VH-60N Cockpit Upgrade						2.9	1.6	10.9	10.4	69.0	94.8	Total		208.4	19.7	26.5	12.7	7.6	8.6	4.0	10.9	10.4	69.0	377.8
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																								
07-89	VH-60N Navstar GPS	6.4	0.3	0.2	0.1	0.1						6.9																																																																																																								
25-90	VH-3D Safety, Reliability and Service Life Extension Program (SLEP)	105.6	7.1	3.6	3.3	0.3						119.9																																																																																																								
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Exhibit P-3a

Individual Modification

MODIFICATION TITLE: VH-60N NAVSTAR GPS (OSIP 07-89)MODELS OF SYSTEMS AFFECTED: VH-60NTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The NAVSTAR GPS is a space-based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipment such as Automatic Heading Reference System (AHRS), Inertial Navigation System (INS), on board computers, etc., on selected applications. Congress has mandated installation of GPS in all military aircraft by the year 2000. Space and Naval Warfare Systems Command is the primary development agency for GPS and has agreed to fund research and development costs to design, prototype, install and test the integrated system on the first of each aircraft type. IIIA receiver install kits were procured in FY 1990 and were installed under ECP 3600R2. One Miniaturized Airborne GPS Receiver (MAGR) was provided June 1994. Seven MAGRs will be provided FY 1996 through FY 1998 and will be installed under ECP 3407. MAGR is required for the VH-60N to conserve weight increases and provide space for future White House directed requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The VH-60N fleet achieved Full GPS Operating Capability in August 1997. First MAGR deliveries were in FY 1994. Prototype GPS MAGR installations began in May 1995 and completed in June 1997. The MAGR installation completed DT/OT testing in November 1998 with Initial Operating Capability in May 1999. Full Operating Capability is scheduled for January 2002.

NOTE: Procured 2 III A Receivers that will not be installed.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
3A RECEIVERS	9	0.2																			9	0.2
MAGR	6	0.4	2	0.1																	8	0.5
Installation Kits N/R		2.0																				2.0
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.7																				0.7
Training Equipment		*																				*
Support Equipment		*																				*
ILS		0.1																				0.1
Other Support		2.2		0.1																		2.4
Interim Contractor Support																						
Installation Cost	10	0.6			3	0.2	1	0.1	1	0.1											15	0.9
Total Procurement		6.4		0.3		0.2		0.1		0.1												6.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-60N MODIFICATION TITLE: VH-60N NAVSTAR GPS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation of MAGR GPS by SPAR (turn-key in FY 1996 and prior fiscal years only).

ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1998: May-98 FY 1999: _____ FY 2000: _____ FY 2001: _____

DELIVERY DATE: FY 1998: Sep-99 FY 1999: _____ FY 2000: _____ FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 (15) kits	10	0.6			3	0.2	1	0.1	1	0.1											15	0.9
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	10	0.6			3	0.2	1	0.1	1	0.1											15	0.9

Installation Schedule - VH-60N MAGR

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	3								3				1		1										
Out	3												3				1		1						

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										8
Out										8

Installation Schedule - 3A RECEIVER

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	7																								
Out	5	2																							

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										7
Out										7

Exhibit P-3a	Individual Modification
MODIFICATION TITLE:	<u>VH-3D SAFETY, RELIABILITY AND SERVICE LIFE EXTENSION PROGRAM (SLEP) (OSIP 25-90)</u>
MODELS OF SYSTEMS AFFECTED:	<u>VH-3D</u> TYPE MODIFICATION: <u>SAFETY</u>
<p>DESCRIPTION/JUSTIFICATION: The VH-3D is assigned to Marine Helicopter Squadron One to support the President of the United States. The VH-3D was delivered in 1975. The original airframe life, based on the SH-3 and White House half life requirements, was 5000 hours. An analytic study using SH-3 and VH-3D usage data increased that life to 8500 hours. At the current usage (30-35 hrs/month), the VH-3D will reach its Executive mission life in FY 1997-1999. With the cancellation or delay of the MV-22 there is no apparent replacement for the VH-3D. A Service Life Extension Program (SLEP) (for 11 aircraft) is necessary to increase VH-3D service life from 8,500 hours to 14,000 hours, extend Executive mission life to the year 2015, and qualify the VH-3D (11 aircraft) at a higher maximum gross weight (max. G. W.) using off the shelf components. Growth in the empty weight of the VH-3D, since initial procurement, has reduced the number of passengers and quantity of fuel carried on White House missions and decreased the safety margin. Increasing the amount of usable engine power will provide a greater margin of safety. Newer components will be more reliable. Mission communications will become more reliable with the addition of a Communication Systems Upgrade (CSU) as directed by the White House.</p> <p>Modifications include:</p> <p>Completed ECP's under this OSIP including strakes (part of ECP 5976), ALQ-144 (ECP 5966), IBIS and Overtorque Warning System (ECP 5962) and reliability kits to improve mission availability, reduce maintenance manhours, and cut life-cycle costs. Ongoing ECP's include:</p> <p>(1) SLEP nonrecurring design engineering to integrate airframe and component replacement due to fatigue or obsolescence was initiated in FY 1990 to support a FY 1993 prototype kit/installation and validation buy, with production kit procurement in FY 1995, FY 1996, FY 1997 and FY 1998. SLEP kits are identified by Phase kits (I, and II). Phase I is the core kit and comprises all required component and structural changes to extend the VH-3D service life. Portions of the Phase I kit will be installed on the VH-3D SLEP/CNSU Prototype. The remainder will be installed during an FY 1999 update. Phase II incorporates cockpit sliding windows and will be installed at the O-Level.</p> <p>(2) Communication System Upgrade (CSU) will ensure communications commonality between Air Force One, the National Emergency Airborne Command Post (NEACP), White House Communications Agency (WHCA), and Marine One. This commonality, as directed by the White House, will guarantee communication links under any requirement and will comply with the National Security Directive for Executive Fleet Airborne Architecture. Systems include: 14 station ICS, HF radio with ALE and ANDVT, a fourth Executive FM radio, a full duplex SATCOM (MUST Radio), and an upgraded systems computer. To guarantee avionics commonality between AF-1, NEACP, and Marine One, it is imperative all CSU avionics were procured in FY 1994. All proposed CSU avionics are NDI from various on going programs. Due to this program's small order quantities, future production or modification cannot be assured. All Executive FM radios were procured in FY 1992 to ensure commonality and facilitate economic ordering quantities. One prototype kit was procured in FY 1994 with the remaining production kits procurements in FY 1995 through FY 1998.</p> <p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Nonrecurring engineering (NRE) for SLEP started in FY 1990. Naval Air Warfare Center, Aircraft Division (NAWCAD), Warminster began developing CSU avionics and software integration in FY 1991 utilizing the VH-60 avionics as a baseline and NVH-3A as an integration platform. NAWCAD will modify off the shelf components for incorporation into the CSU kits. Sikorsky Aircraft developed the interior modifications as part of the nonrecurring engineering of SLEP. Prototype SLEP installation began in Oct. 1994 and completed in July 1997. Development and Operational Testing was completed in November 1998. Initial Operating Capability was March 1999. Full Operating Capability is planned by June 2001.</p>	

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Reliability Kit	11	0.8																					11	0.8
ALQ-144 Kit	8	0.2																					8	0.2
SLEP Kit	20	8.0	2	1.6																			22	9.6
Comm System Upgrade Kit	10	9.0	2	1.9																			12	10.9
IBIS Kit	11	0.3																					11	0.3
Installation Kits N/R		37.6																						37.6
Installation Equipment																								
IBIS	11	0.5																					11	0.5
FM Executive Radio	17	0.8																					17	0.8
Mil Aide/Fill Panels		0.6																						0.6
APN-194		0.1																						0.1
IRU's		0.1																						0.1
Strake Equipment		0.0																						0.0
RF Switches		0.2																						0.2
Comm System Upgrade	12	6.0																					12	6.0
Installation Equipment N/R		7.5																						7.5
Engineering Change Orders																								
Data		1.7		*																				1.7
Training Equipment		0.1																						0.1
Support Equipment		0.9		1.5																				2.4
ILS		0.3						*																0.4
Other Support		21.4		2.0		1.0		0.4		0.3														25.0
Interim Contractor Support																								
Installation Cost	45	9.5			4	2.7	4	2.8															53	15.0
Total Procurement		105.6		7.1		3.6		3.3		0.3														119.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-3DMODIFICATION TITLE: VH-3D Safety, Reliability, and SLEP

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation of IBIS, SLEP Phase I kits, Communications System Upgrade, and Strake will be at SPAR. Installation of ALQ-144 Phase Lock kit will be by Drive-in-Mod. (All turn-key in FY 1996 and prior fiscal years.)ADMINISTRATIVE LEADTIME: 5 MonthsPRODUCTION LEADTIME: 20 MonthsCONTRACT DATES: FY 1998: Jun-98

FY 1999: _____

FY 2000: _____

FY 2001: _____

DELIVERY DATE: FY 1998: Oct-99

FY 1999: _____

FY 2000: _____

FY 2001: _____

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (53) kits	45	9.5			4	2.7	4	2.8													53	15.0
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	45	9.5			4	2.7	4	2.8													53	15.0

Note: 11 Reliability kits installed at "O" level; no cost to APN-5.

Installation Schedule - Comm System Upgrade

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8							1	1		1	1													
Out	8											1	1		1	1									

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										12
Out										12

Installation Schedule - SLEP

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8							1	1		1	1													
Out	8											1	1		1	1									

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										12
Out										12

P-1 SHOPPING LIST

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: VH-3D NAVSTAR GPS (OSIP 27-92)MODELS OF SYSTEMS AFFECTED: VH-3DTYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The NAVSTAR GPS is a space-based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipments such as Automatic Heading Reference System (AHRS), Inertial Navigation System (INS), on board computers, etc., on selected applications. Congress has mandated installation of GPS in all military aircraft by the year 2000. The Space and Naval Warfare Systems Command is the primary development agency for GPS and has agreed to fund research and development costs to design, prototype, install and test the integrated system on the first of each aircraft type. One Miniaturized Airborne GPS Receiver (MAGR) kit was procured in FY 1994 and 10 MAGR kits were procured in FY 1995 through FY 1998 for incorporation in FY 1996 through FY 2000. MAGR is required for the VH-3D to minimize the increase in weight and conserve space for future White House directed requirements.

NOTE: FY-95 buy includes 4 accelerated GPS as interim fix until MAGR kits are installed as part of CNSU. MAGR Prototype kit procured under SPAWAR RDT&E funds.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The first MAGR deliveries were in FY 1994. Prototype MAGR installation began in October 1994 and completed in July 1997 (part of ECP 5976). Development and Operational Testing was completed in November 1998. Initial Operating Capability was in March 1999 with Full Operating Capability scheduled in June 2001.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E	1																						1	
PROCUREMENT																								
Installation Kits																								
Accelerated GPS Kit	4	0.4																					4	0.4
MAGR Kit	8	0.8	2	0.2																			10	1.0
Installation Kits N/R		0.1																						0.1
Installation Equipment																								
Installation Equipment N/R		0.2																						0.2
Engineering Change Orders																								
Data		*																						*
Training Equipment		*																						*
Support Equipment																								
ILS		*																						*
Other Support		1.3		0.1																				1.4
Interim Contractor Support																								
Installation Cost	7	0.4			2	0.1	2	0.1															11	0.6
Total Procurement		3.2		0.3		0.1		0.1																3.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: **VH-3D**MODIFICATION TITLE: **VH-3D NAVSTAR GPS**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor during SDLM (turn-key in FY 1996 and prior fiscal years).**ADMINISTRATIVE LEADTIME: **8 Months**PRODUCTION LEADTIME: **20 Months**CONTRACT DATES: FY 1998: **Jun-98** FY 1999: FY 2000: FY 2001:DELIVERY DATE: FY 1998: **Feb-99** FY 1999: FY 2000: FY 2001:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (11) kits	7	0.4			2	0.1	2	0.1													11	0.6
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	7	0.4			2	0.1	2	0.1													11	0.6

Note: MAGR Prototype kit procured under SPAWAR RDT&E funds.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	7							1	1		1	1													
Out	7											1	1		1	1									

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										11
Out										11

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	<u>EXECUTIVE HELICOPTER SURVIVABILITY PROGRAM (OSIP 22-93)</u>		
MODELS OF SYSTEMS AFFECTED:	<u>VH-3D/VH-60N</u>	TYPE MODIFICATION:	<u>SAFETY</u>
<p>DESCRIPTION/JUSTIFICATION: The VH-3D and VH-60N Executive Helicopters provide worldwide emergency evacuation and executive transport missions for the President of the United States. Missions include operations in areas subject to terrorist infiltrations, light anti-aircraft weapons, small arms, infrared seeking missiles, laser weapons, and other external threats. The proposed survivability improvements will provide mission aircraft with a tailored Electronic Warfare (EW) suite, including a full range of active and passive electronic countermeasures equipment. Certain systems in the suite can be mission configurable depending upon the threat. Other external threats include operations in air corridors with increasing air traffic. International and federal laws governing commercial air traffic require collision avoidance systems for certain aircraft which carry passengers. FAA requirements call for installation of a collision avoidance warning system no later than 1996 for most commercial aircraft. The collision warning system will give "Marine One" pilots a real time indication of proximity threat traffic. The system will augment radar tracking and provide traffic advisories when operating in areas with no radar coverage.</p> <p>Modification will include:</p> <ul style="list-style-type: none">(1) 19 ALQ-144A Phase Lock airframe change kits (11 VH-3D and 8 VH-60N) in FY 1994. The ALQ-144A Phase Lock is an active, continuously operating, electrically fired infrared (IR) jammer system designed to confuse or decoy threat IR missile systems. A prototype was evaluated in FY 1991 on the VH-60N and in FY 1992 on the VH-3D.(2) 19 Survivability change kits and GFE (11 VH-3D and 8 VH-60N) in FY 1993 through FY 1998. One prototype kit was procured in FY 1993 for the VH-3D and one in FY 1994 for the VH-60N. 10 production kits were procured for the VH-3D in FY 1995 through FY 1998, and 7 VH-60N production kits were procured in FY 1996 through FY 1998. The Survivability kit consists of the APR-39 Radar Detector, the AAR-47 Missile Detector, the AVR-2 & AVR-2(A) Laser Detectors (providing real time laser illumination detection) and the ALE-47 Countermeasures Dispensing system. The ALE-47 will be utilized as a mission kit and will provide automatic active decoy for identified threats. Survivability Kits will provide pilots real time threat and relative position indications. Initial Radar Detector installations will use "on-loan" APR-39A(V)1 systems. Survivability Kits will be installed on the NVH-3A Testbed prior to install on the VH-3D and VH-60N prototypes to reduce risk and decrease time required for testing on the prototypes. Installation of these systems are being performed as part of ECP 5976 (VH-3D) and ECP 3407 (VH-60N).(3) Traffic Alert and Collision Avoidance System (TCAS) install kits and IFF (8 VH-60N), included as part of the MUG/CNSU kits in FY 1996 through FY 2002. VH-60N TCAS production kits were procured as part of the MUG/CNSU kits in FY 1996 through FY 1998 and will be installed as part of ECP 3407. TCAS/IFF kits for the VH-3D will be procured in FY 1998 through FY 2001 and installed under ECP 5981 in FY1999 through FY2003. Mode "S" update will follow as technology matures. ORD OR-315-05-92 and OR-316-05-92 apply.(4) An interim Auto Ignition system was developed and installed on the VH-60N aircraft in FY 1994. Permanent systems will be installed coincident with the VH-60N survivability mod installations.(5) 2 Simulators in FY 99 (1 VH-60N & 1 VH-3D)(6) In FY 01 an FM immunity capability will be procured/installed on the VH-60N and VH-3D to prevent receiving erroneous signals and false position indications for the VOR/ILS system. <p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Integration efforts to the airframes will be performed by either Sikorsky Aircraft or the individual kit manufacturer. Software integration, which started in FY 1993, is being developed by NAWC AD. The VH-3D and VH-60N survivability prototype installation commenced in October 1994 and completed in July 1997. Development and Operational testing of the APR-39 Missile Detector, AAR-47 Radar Warning Receiver, ALE-47 chaff and flare dispenser and the AVR-2 & AVR-2(A) Laser Detectors installed in the VH aircraft was completed in November 1998. These systems failed OT. Initial Operating Capability for these systems is planned in March 2000 and Full Operating Capability is scheduled in the first quarter FY 2002. The first installation of TCAS/IFF was in May 1999 for the VH-60N and February 2001 for the VH-3D.</p>			

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
VH-3D Survivability Kit	10	9.8	2	2.1																			12	11.9
VH-60N Survivability Kit	7	4.3	2	1.2																			9	5.5
VH3D TCAS Kit			1	0.1	4	0.5	4	0.5	2	0.3													11	1.4
VH-60N Auto Ignition Kit	8	1.1																					8	1.1
Installation Kits N/R		18.8		1.6																				20.4
Installation Equipment																								
ALQ-144	19	2.4																					19	2.4
MUST Radio	3	0.3																					3	0.3
ALE-47 MLVS		0.1																						0.1
ALE-47	10	0.7																					10	0.7
VH-3D TCAS			1	0.1	4	0.4	4	0.5	2	0.3													11	1.3
APX-100 Upgrade									1	*			10	0.3									11	0.3
FM Immunity VH-3D									11	0.2													11	0.2
FM Immunity VH-60N									8	0.1													8	0.1
Installation Equipment N/R		*								0.1														0.1
Engineering Change Orders		*		0.1						0.1														0.1
Data		3.7		0.1						0.4														4.2
Training Equipment		0.5			2	13.9		0.1															2	14.5
Support Equipment		1.2								*														1.2
ILS		1.0		*																				1.1
Other Support		10.8		3.1		1.4		3.9		0.9		1.9		0.1										22.2
Interim Contractor Support																								
Installation Cost	39	8.2			5	3.1	4	3.1	5	4.1	4	3.8	2	2.0									59	24.4
Total Procurement		62.8		8.4		19.3		8.2		6.5		5.7		2.4										113.4

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Installation Kits for the ALQ-144 (19) were procured in FY 1990 for the VH-3D under OSIP 25-90. Installation Kits for the VH-60N delivered with the production aircraft.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-3D/VH-60NMODIFICATION TITLE: EXECUTIVE HELICOPTER SURVIVABILITY PROGRAM

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: ALQ-144A Phase Lock kits will be installed as Contractor Drive-in-Mod. Survivability kits (AAR-47, APR-39, AVR-2 and ALE-47) will be installed on VH-3D and VH-60N aircraft during SPAR. Collision avoidance warning systems are currently being evaluated and will be incorporated during SPAR. (All turn-key in FY 1996 and prior fiscal years.)

ADMINISTRATIVE LEADTIME: 9 MonthsPRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: Jun-98FY 1999: FY 2000:

DELIVERY DATE: FY 1998: Jun-99FY 1999: FY 2000:

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (48) kits	39	8.2			5	3.1	4	3.1													48	14.5
FY 1999 (5) kits									5	4.1											5	4.1
FY 2000 (4) kits											4	3.8									4	3.8
FY 2001 (2) kits													2	2.0							2	2.0
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	39	8.2			5	3.1	4	3.1	5	4.1	4	3.8	2	2.0							59	24.4

Installation Schedule - VH-3D Survivability

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8							1	1		1	1													
Out	8										1	1		1	1										

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										12
Out										12

Installation Schedule - VH-60N Survivability

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	4								3				1		1										
Out	4												3				1		1						

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										9
Out										9

MODELS OF SYSTEMS AFFECTED: VH-3D MODIFICATION TITLE: EXECUTIVE HELICOPTER SURVIVABILITY PROGRAM

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Collision avoidance warning systems will be incorporated during SPAR.

ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1998: Jun-98 FY 1999: Jun-99 FY 2000: Jun-00

DELIVERY DATE: FY 1998: Oct-00 FY 1999: Oct-01 FY 2000: Oct-02

Installation Schedule - VH-3D TCAS

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											1				1	1	2	1	1	2		1		1	
Out															1			1	1	2	1	1	2		1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										11
Out		1								11

Exhibit P-3a	Individual Modification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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<p>DESCRIPTION/JUSTIFICATION: The VH-60N is assigned to Marine Helicopter Squadron One (HMX-1) to support the President of the United States. This planned upgrade will correct identified deficiencies in aircraft performance and mission capabilities. Upgrades are required in system areas pertaining to environmental issues, communication and navigation. White House operational requirements for the VH-60N designate specific communication and mission improvement requirements.</p> <p>Modifications are performed under ECP 3407 and will include:</p> <p>(1) Incorporation of a Communications System Upgrade. One prototype Communications System Upgrade kit was procured in FY 1994. Seven production communications system upgrade kits were procured in FY 1996 through FY 1998. The upgrade will provide communication system commonality between the VH-60N and VH-3D, Air Force One, National Emergency Airborne Command Post (NEACAP), and the White House Communications Agency (WHCA). Specifically the CSU will include the following:</p> <p>(a) Addition of a fourth VHF/FM radio. This enhances system capability to one full duplex and two half duplex channels capable of secure and clear voice operation.</p> <p>(b) HF Radio system capable of half duplex secure and clear voice operation. Must have embedded Automatic Link Establishment (ALE) capability and operationally securable with Advance Narrow Band Digital Voice Terminal (ANDVT).</p> <p>(c) Full duplex SATCOM capability (25 Khz channel spacing (MUST Radio)).</p> <p>(2) Incorporation of MUG kit. Eight production MUG kits were procured in FY 1996 through FY 1998. The MUG kit will consist of:</p> <p>(a) Aircraft modifications to improve aircraft performance and reliability. Airframe modifications are as follows:</p> <p>(1) An improved rotor brake system.</p> <p>(2) New APU components to improve reliability.</p> <p>(3) Improved tail landing gear to absorb greater stress and impact landings due to stress from increase operating weight.</p> <p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-recurring engineering (NRE) for the Mid-Life Upgrade began in 1993. Communications System Upgrade software integration, which started in FY 1992, is being developed by NAWC AD Warminster using the NVH-3A Testbed as an integration platform. The Naval Air Warfar Center Aircraft Division is modifying off-the-shelf components for incorporation into CSU kits. Sikorsky Aircraft is developing the interior and structural modifications as part of the NRE. The prototype aircraft for the Communications System Upgrade Kit was inducted in May 1995 and completed in June 1997. Development and Operational testing of the CSU software will be completed in November 1999. First production MUG VH-60N aircraft was inducted in June 1998. Initial Operational Capability occurred in September 1999 and Full Operational Capability is scheduled in December 2001.</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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<td></td><td>30.4</td><td></td><td>3.6</td><td></td><td>3.3</td><td></td><td>1.0</td><td></td><td>0.8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>39.1</td> </tr> </tbody> </table>		Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		To Complete		Total			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	RDT&E																									PROCUREMENT																									Installation Kits																									Comm System Upgrade/MUG Kit	7	4.6	2	1.3																			9	5.9	Installation Kits N/R		8.7																						8.7	Installation Equipment																									Comm System Upgrade	8	3.5																					8	3.5	FM Radios	10	0.5																					10	0.5	Installation Equipment N/R																									Engineering Change Orders																									Data		0.6		*																				0.6	Training 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<p>Notes: 1. Totals may not add due to rounding.</p> <p>2. Asterisk indicates amount less than \$50K.</p> <p>3. One kit funded as Prototype with FY-94 install kit non-recurring.</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-3D/VH-60N MODIFICATION TITLE: VH-60N MID-LIFE UPGRADE

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation of Communication System Upgrade and Mid-Life Upgrade kits will occur during SPAR (All-turn key in FY 1996 and prior fiscal years).

ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1998: May-98 FY 1999: FY 2000: FY 2001:

DELIVERY DATE: FY 1998: Sep-99 FY 1999: FY 2000: FY 2001:

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (10) kits	5	1.6			3	1.5	1	0.5	1	0.5											10	4.2
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL	5	1.6			3	1.5	1	0.5	1	0.5											10	4.2

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	5								3				1		1										
Out	5												3				1		1						

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										10
Out										10

CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40										DATE: February 2000		
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE Special Project Aircraft				
Program Element for Code B Items:								Other Related Program Elements				
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY												
COST (In Millions)	13.4		22.8	22.2	30.6	4.1	8.1	4.9	5.2	5.4		116.7
<p>This Defense Airborne Reconnaissance Office (DARO) program modifies or replaces obsolete intelligence collection equipment in FY 2001 in four P-3 special project aircraft. Procurements vary in each fiscal year and include common Navy systems for increased capability, reduced operator workload and common logistics. Active PAA inventory is 4. There are 4 aircraft in the Special Mission inventory. They have an average service life of 29.5 years and without replacement the first aircraft will reach end of service in 2001. The specific modifications budgeted and programmed are:</p>												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
18-97	P-3 Special Project Aircraft	7.3	19.8	14.6	21.1	2.0	3.7					68.5
19-97	P-3 Intelligence Sensors/Systems	6.1	3.0	7.6	9.5	2.1	4.5	4.9	5.2	5.4		48.2
TOTAL		13.4	22.8	22.2	30.6	4.1	8.1	4.9	5.2	5.4		116.7
Note: Totals may not add due to rounding												

CLASSIFICATION:

Exhibit P-3a	INDIVIDUAL MODIFICATION																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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MODELS OF SYSTEM AFFECTED: <u>P-3B/C</u>	TYPE MODIFICATION: <u>Operational Improvement</u>																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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<p>This modification replaces obsolete intelligence collection equipment in four P-3 Special Project aircraft by:</p> <ol style="list-style-type: none"> 1. Replacement of two (2) P-3 Special Project aircraft that reach 100% FLE (fatigue life expenditure) in FY01. This effort includes upgrading two (2) existing aircraft to the same configuration and operational capability as the replacement P-3 Special Project aircraft. The increased capability is classified. 2. Procurement of common Navy systems for increased capability, reduced operator workload and common logistics. 3. Update of radio frequency distribution hardware for selected sensors. 4. Conversion of interior and exterior of aircraft for future operations. 																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th rowspan="2"></th> <th colspan="2">Prior Years</th> <th colspan="2">FY 1998</th> <th colspan="2">FY 1999</th> <th colspan="2">FY 2000</th> <th colspan="2">FY 2001</th> <th colspan="2">FY 2002</th> <th colspan="2">FY 2003</th> <th colspan="2">FY 2004</th> <th colspan="2">FY 2005</th> <th colspan="2">TC</th> <th colspan="2">TOTAL</th> </tr> <tr> <th>Qty</th><th>\$</th> <th>Qty</th><th>\$</th> <th>Qty</th><th>\$</th> <th>Qty</th><th>\$</th> <th>Qty</th><th>\$</th> <th>Qty</th><th>\$</th> <th>Qty</th><th>\$</th> <th>Qty</th><th>\$</th> <th>Qty</th><th>\$</th> <th>Qty</th><th>\$</th> </tr> <tr> <td>RDT&E</td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> </tr> <tr> <td>PROCUREMENT</td> <td></td><td></td> <td></td><td></td> <td></td><td></td> 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<td>4</td><td>7.3</td> <td>8</td><td>19.8</td> <td>14.6</td> <td></td> <td>21.1</td> <td>2.0</td> <td></td><td>3.7</td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td>12</td><td>68.5</td> </tr> </table>		Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	RDT&E																					PROCUREMENT																					Installation Kits																					P-3 System A (Mission Unique)			4	.5															4	.5	P-3 System B (Mission Unique)																					LESPA	4	.9																	4	.9	Replacement Aircraft			4	3.3	9.7														4	13.0	Installation Kits N/R				7.2																7.2	Installation Equipment		1.2		3.2	2.9		.4	.3		1.7										9.7	Installation Equipment N/R		2.4		2.4			.4													5.2	Engineering Change Orders																					Data							.2		.3											.5	Training Equipment				.2																.2	Support 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Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3B/CMODIFICATION TITLE: P-3 Special Project Aircraft (OSIP 18-97)
Replacement Aircraft / Block Mod

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Drive In.ADMINISTRATIVE LEADTIME: 6 MonthsPRODUCTION LEADTIME: 18 MonthsCONTRACT DATES: FY 1998: 7/98 FY 1999: _____ FY 2000: _____DELIVERY DATE: FY 1998: 1/00 FY 1999: _____ FY 2000: _____

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (4) kits							4	16.8													4	16.8
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL							4	16.8													4	16.8

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											2		2												
Out												1			1				1		1				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										4
Out										4

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: P-3 Intelligence Sensors and Systems (OSIP 19-97)MODELS OF SYSTEM AFFECTED: P-3B/CTYPE MODIFICATION: Operational Improvement

DESCRIPTION/JUSTIFICATION:

This modification replaces obsolete intelligence collection equipment in four P-3 Special Project aircraft by:

1. Installation and support of special mission equipment contained in OSIP 18-97.
2. Procurement of special mission equipment as directed by the Chief of Naval Operations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval for full production is not required.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits			4	.7					4	1.0	4	.3									12	2.0
Installation Kits N/R										.9		.2										1.2
Installation Equipment																						
Mission Unique Equipment		5.6		2.1		6.9		9.1			2.0		4.3		4.5		4.8					39.2
Installation Equipment N/R		.2																				.2
Engineering Change Orders																						
Data											.3											.3
Training Equipment											.3											.3
Support Equipment																						
ILS											.3											.3
Other Support		.2		.3		.6		.5		.2		.2		.2		.2		.2				2.5
Interim Contractor Support																						
Installation Cost											1	.9	1	.5	1	.5	1	.5			4	2.3
TOTAL PROCUREMENT		6.1	4	3.0		7.6		9.5	4	2.1	4	4.5		4.9		5.2		5.4			12	48.2

Notes:

1. Totals do not add due to rounding
 2. Asterisk indicates amount less than 51K
- * Installation of FY97-00 Mission Unique Equipment to be accomplished under OSIP 18-97.
 * Installation of FY01-05 Mission Unique Equipment to be accomplished at field (O) level.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3B/CMODIFICATION TITLE: P-3 Intelligence Sensors and Systems (OSIP 19-97)
Mission Unique

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Drive In.ADMINISTRATIVE LEADTIME: 5 MonthsPRODUCTION LEADTIME: 11 MonthsCONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: 9/01DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: 8/02

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 (4) kits *																						
FY 2002 (4) kits											1	.9	1	.5	1	.5	1	.5			4	2.3
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL											1	.9	1	.5	1	.5	1	.5			4	2.3

* FY 2001 A-Kits will be installed concurrent with FY 2002 A-Kits. Installation of A-Kits and Mission Unique B-Kits are linked to the availability of the Special Mission A/C.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																					1				1
Out																					1				1

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In				1				1		4
Out				1				1		4

Exhibit P-3a

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: February 2000																																																																																																																										
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE T-45 Series Modifications																																																																																																																										
Program Element for Code B Items:							Other Related Program Elements																																																																																																																										
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																					
QTY		A										0																																																																																																																					
COST (In Millions)	32.0	A	5.3	8.4	9.6	9.1	13.1	13.3	38.3	103.1	163.1	395.2																																																																																																																					
<p>This line item funds modifications to T-45A aircraft. The T-45A Goshawk is a tandem-seat, carrier capable derivative of the existing British Aerospace Hawk aircraft powered by a single Rolls Royce Adour engine. It serves as the aircraft component of the T45TS integrated jet pilot training system which replaces the three decade old TA-4 and T-2 technology. The overall goal of the modifications budgeted in FY 2001 is to correct discrepancies and deficiencies discovered after delivery of the aircraft and to commence major upgrades to the aircraft cockpit, navigation system, and aircrew ejection seat.</p> <p>The designed service life of the aircraft is 14,400 hours with the average remaining service life of inventory aircraft estimated at 12,145 hours.</p> <p>The specific modifications budgeted and programmed are:</p> <table><tr><th colspan="13">(TOA, \$ in Millions)</th></tr><tr><th>OSIP No.</th><th>Description</th><th>Prior Years</th><th>FY 1998</th><th>FY 1999</th><th>FY 2000</th><th>FY 2001</th><th>FY 2002</th><th>FY 2003</th><th>FY 2004</th><th>FY 2005</th><th>To Complete</th><th>Total</th></tr><tr><td>08-95</td><td>T45TS Correction to Deficiencies</td><td>28.2</td><td>5.3</td><td>5.6</td><td>6.9</td><td>6.4</td><td>5.7</td><td>5.9</td><td>4.3</td><td>5.6</td><td>41.9</td><td>115.8</td></tr><tr><td>16-96</td><td>T45TS Digital Cockpit</td><td>3.8</td><td></td><td></td><td></td><td></td><td></td><td></td><td>25.6</td><td>24.9</td><td>106.9</td><td>161.1</td></tr><tr><td>04-99</td><td>T45TS NACES P3I</td><td></td><td></td><td>2.8</td><td>2.7</td><td>2.7</td><td></td><td></td><td></td><td></td><td>0.0</td><td>8.2</td></tr><tr><td>-02</td><td>Improvement Directional Control</td><td></td><td></td><td></td><td></td><td></td><td>7.4</td><td>7.4</td><td>7.4</td><td>7.4</td><td>7.3</td><td>36.8</td></tr><tr><td>-04</td><td>T-45TS GPS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.1</td><td>1.2</td><td>7.0</td><td>9.3</td></tr><tr><td>-05</td><td>SLEP</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>64.0</td><td>0.0</td><td>64.0</td></tr><tr><td colspan="2">Total</td><td>32.0</td><td>5.3</td><td>8.4</td><td>9.6</td><td>9.1</td><td>13.1</td><td>13.3</td><td>38.3</td><td>103.1</td><td>163.1</td><td>395.2</td></tr></table> <p>Note: Totals may not add due to rounding.</p>													(TOA, \$ in Millions)													OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total	08-95	T45TS Correction to Deficiencies	28.2	5.3	5.6	6.9	6.4	5.7	5.9	4.3	5.6	41.9	115.8	16-96	T45TS Digital Cockpit	3.8							25.6	24.9	106.9	161.1	04-99	T45TS NACES P3I			2.8	2.7	2.7					0.0	8.2	-02	Improvement Directional Control						7.4	7.4	7.4	7.4	7.3	36.8	-04	T-45TS GPS								1.1	1.2	7.0	9.3	-05	SLEP									64.0	0.0	64.0	Total		32.0	5.3	8.4	9.6	9.1	13.1	13.3	38.3	103.1	163.1	395.2
(TOA, \$ in Millions)																																																																																																																																	
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																																																																																																																					
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04-99	T45TS NACES P3I			2.8	2.7	2.7					0.0	8.2																																																																																																																					
-02	Improvement Directional Control						7.4	7.4	7.4	7.4	7.3	36.8																																																																																																																					
-04	T-45TS GPS								1.1	1.2	7.0	9.3																																																																																																																					
-05	SLEP									64.0	0.0	64.0																																																																																																																					
Total		32.0	5.3	8.4	9.6	9.1	13.1	13.3	38.3	103.1	163.1	395.2																																																																																																																					

INDIVIDUAL MODIFICATION

MODELS OF SYSTEM AFFECTED: T-45 Training System (T45TS)

TYPE MODIFICATION: Safety, Reliability, Increased Service Life, Improved Mission Capabilities

Ejection Seat Handle MB-9155

Uncommanded Gear Extension: MDA-T45TS-TBE

Ground Training Systems: MDA-T45TS-TBDs

The following Ground Trainer Systems ECP's are included in the controls: Flap Actuation Systems Simulators, Touch and Go Engine Surges, current and future Simulator Upgrades.

Modifications will incorporate changes to improve structural details to increase aircraft service life beyond 14,400 flight hours, per initial design specifications, to a projected 21,000 flight hours. During FSD testing of the T45 aircraft it was determined that incorporation of redesigned components applicable to the critical load paths will significantly increase the service life of the aircraft. This structural correction OSIP effects several structural components to include: Wing Dolly, SS 02 Monitor Bracket, Horizontal Stabilizers, Frame 24 Crossbeams Lugs, Wing Leading Edge Redesign, Frame 29 Lower Flange, Uplock Beam Forward Attach, Slat Track Rib 5 Downstop Bolt, Frame 28/32 Boundary/Vert Fin, Inlet Close-Out Fuel, Airframe Er Mount, Frame 21 Structure, MLG Bay Tilted & Fasteners, Longitudinal Structures Viscous, Frame 20 Structures, Frame 12 Vertical Splice, NLF Trunnion Beam, Slat Actuator Fitting Angle, Structure Life Improvement, Speed Brake Upgrade, Engine Mount Link Option, Stabilizer Back-Up Structures, Fuselage/Frame 10 Door, and Fin Bracket Lever Box Assembly.

Software modifications to the T45TS will update the Display unit, heads Up Display, and Global Positioning System and Inertial Navigation Assembly to enhance effectiveness of pilot training. The Air Data Recorder improvements will increase available memory and allow monitoring of additional aircraft characteristics which will allow improved component tracking and increase service life. The following ECP's are part of the Avionics package of the aircraft and include: Avionics Stress Life Tracking, Air Data Recorder Upgrade (current and future), GINA Updates, C/P-21 Software Updates, and GPS Upgrade:

Modifications will increase engine service life and correct safety related issues. These modifications include High Pressure Fuel Pump, Front Combustion Liner, High Pressure Compressor Ladder Assembly, Low Pressure Nozzle Guide Vanes, High pressure Nozzle Guide Vanes and a modification to address engine surge/compressor stall. Modification will increase the overhaul interval from 1000 starts to 2000 starts. This also addresses a T45TS Engineering Investigation that documented a deficiencies with the combustor liner and oil galley. The Engine ECP's include the Dual Boost Pump, Low Pressure Nozzle Guide Vanes, High Pressure Nozzle Guide Vanes, HP Fuel Pump, Front Combustion Liners, Gas Turbine Starters, Engine Rising Idle, Engine Surges, and the Engine Ladder Assembly.

P-1 SHOPPING LIST ITEM NO. 43
PAGE NO. 2 OF 6

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Ejection Seat Handle MB-9155							112	0.3													112	0.3
Uncommanded Gear Extension			1	0.1	34	0.5															35	0.6
Ground Training Systems TBD's	24	1.2		*		*	8	0.7	8	0.8	9	0.9	9	0.8					16	1.3	74	5.6
Structural ECP's	328	11.0	205	2.2	127	1.4	56	0.9	41	1.5	41	0.5	143	0.8	26	0.2	12	1.6	360	14.8	1,339	34.7
Avionics	52	0.5		*	100	0.4	25	0.5	95	1.3	25	0.5	25	0.4	5	*	19	0.1	72	2.3	418	6.0
Engines	420	5.4	17	*		*	50	0.1		*	90	*	10	0.4	16	0.3	17	0.1	192	11.2	812	17.6
Installation Kits N/R		1.2											0.1		0.2		0.1					1.6
Installation Equipment																						0.0
Ejection Seat Handle MB-9155				0.2																		0.2
Uncommanded Gear Extension						*		*		*			*									0.1
Ground Training Systems TBD's		*					*		*		*		*									0.0
Structural ECP's		0.2				*		0.1		*		0.1		0.1			*					0.5
Avionics		*				*		*		*			0.1		*		*					0.2
Engines		0.2											*		*		*					0.3
Installation Equipment N/R		0.2											0.1		0.1		0.2					0.6
Engineering Change Orders																		0.1				0.1
Data		0.2		0.1		0.1		0.2		0.1		0.2		0.1		0.2		0.2				1.4
Training Equipment		1.1		0.5		0.3		1.0		0.1		0.2		0.1		0.1		0.1				3.5
Support Equipment		0.1		0.1		0.1		0.5		0.1		0.6		0.1		0.2		0.1				1.7
ILS																						0.0
Other Support		0.1		0.2		0.6		*		*		*		*		*		*				1.1
Interim Contractor Support																						0.0
Installation Cost	607	6.7	344	1.9	251	2.2	254	2.6	154	2.6	233	2.7	127	2.8	60	2.9	48	3.0	712	12.5	2,790	39.9
TOTAL PROCUREMENT	824	28.2	223	5.3	261	5.6	251	6.9	144	6.4	165	5.7	187	5.9	47	4.3	48	5.6	640	41.9	2,790	115.8

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED **T45TS**MODIFICATION TITLE: **T-45TS Correction of Deficiencies (Osip 08-95)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **"I" and "D" Level Installation: Contractor Field Modification Team-Separate Contract**ADMINISTRATIVE LEADTIME: 6 MonthsPRODUCTION LEADTIME: 12 MonthsCONTRACT DATES: FY 1999: N/AFY 2000: N/ADELIVERY DATE: FY 1999: N/AFY 2000: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (1047) kits	607	6.7	344	1.9	96																1,047	8.6
FY 1999 (261) kits					155	2.2	63		37		6										261	2.2
FY 2000 (251) kits							191	2.6	29		31										251	2.6
FY 2001 (144) kits									88	2.6	56										144	2.6
FY 2002 (165) kits											140	2.7	25								165	2.7
FY 2003 (187) kits													102	2.8	42		12		31		187	2.8
FY 2004 (47) kits															18	2.9			29		47	2.9
FY 2005 (48) kits																	36	3.0	12		48	3.0
To Complete (640) kits																			640	12.5	640	12.5
TOTAL	607	6.7	344	1.9	251	2.2	254	2.6	154	2.6	233	2.7	127	2.8	60	2.9	48	3.0	712	12.5	2,790	39.9

Installation Schedule

	FY 1997	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	607	86	86	86	86	62	63	63	63	63	63	64	64	38	39	38	39	58	58	58	59	32	32	32	31
Out	607	86	86	86	86	62	63	63	63	62	63	64	65	38	39	38	39	58	58	58	59	32	32	32	31

	FY 2004				FY 2005				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	15	15	15	15	12	12	12	12	712	2790
Out	15	15	15	15	12	12	12	12	712	2790

Exhibit P-3a		INDIVIDUAL MODIFICATION																																																																																																																																																																																																																																																																																																																																																																																																																																										
MODIFICATION TITLE: T-45A NACES P3I (Navy Aircrew Common Ejection Seat Pre-Planned Product Improvement) (OSIP 4-99)																																																																																																																																																																																																																																																																																																																																																																																																																																												
MODELS OF SYSTEM AFFECTED: T-45A NACES GFE EJECTION SEATS										TYPE MODIFICATION: PS SAFETY																																																																																																																																																																																																																																																																																																																																																																																																																																		
<p>DESCRIPTION/JUSTIFICATION:</p> <p>An average of 15 Naval Aircrew fatalities occur each year from in-flight mishaps. Nearly half result from the seat ejecting crewmembers into the ground or water at low altitude and adverse attitudes. Because of their lighter throw weight, women are particularly susceptible to this and other ejection risks. A total of 119 aircraft (2 seats per A/C) and 6 trainers will be retrofitted. The NACES P3I program is divided into three phases of development and upon completion of each phase, existing aircraft seats will be modified with NACES retrofit kits.</p> <p>Phase I - Current technology improvements to increase cockpit accommodation and reduce injury risk for all aircrew.</p> <p>Phase II - Propulsion stability control to reduce the risk of major injury to less than 5% up to 600 knots.</p> <p>Phase III - Stability control and surface avoidance capability for low altitudes, adverse attitudes, and out of control ejections.</p> <p>Procurement of Phase I kits have been priced and are represented by this OSIP. Procurement costs for Phase II and III have not been determined.</p> <p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:</p> <p>Contract awarded third quarter FY 1997 for development and testing. ECP approved 19 May 1999. Contract awarded August 1999.</p> <p>FINANCIAL PLAN (TOA, \$ in Millions)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Prior Years</th> <th colspan="2">FY 1998</th> <th colspan="2">FY 1999</th> <th colspan="2">FY 2000</th> <th colspan="2">FY 2001</th> <th colspan="2">FY 2002</th> <th colspan="2">FY 2003</th> <th colspan="2">FY 2004</th> <th colspan="2">FY 2005</th> <th colspan="2">To Complete</th> <th colspan="2">TOTAL</th> </tr> <tr> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> </tr> </thead> <tbody> <tr> <td>RDT&E</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>PROCUREMENT</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Installation Kits</td> <td></td><td></td><td></td><td></td><td>75</td><td>1.8</td><td>85</td><td>2.0</td><td>78</td><td>1.9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>238</td><td>5.7</td> </tr> <tr> <td>Installation Kit - 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Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-45A NACES GFE EJECTION SEATS

MODIFICATION TITLE: T-45A NACES P3I (OSIP 4-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Installations

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1999: Aug-99

FY 2000: Jan-00

DELIVERY DATE: FY 1999: Sep-99

FY 2000: Jul-00

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 (81) kits					18	0.2	63														81	0.2
FY 2000 (85) kits							24	0.2	61												85	0.2
FY 2001 (78) kits									18	0.8	60	*									78	0.9
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
To Complete () kits																						
TOTAL					18	0.2	87	0.2	79	0.8	60	*									244	1.3

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									18	20	23	24	20	20	20	19	20	20	20	20					
Out										18	20	23	24	20	20	20	19	20	20	20	20				

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										244
Out										244

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/AFN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE Power Plant Changes					
Program Element for Code B Items:								Other Related Program Elements					
	Prior Years	ID Code		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY		A											
COST (In Millions)	207.8	A		17.3	17.2	15.5	17.1	17.1	17.0	17.3	17.7	21.2	365.2
This line item funds modifications to all in-service aircraft engines. Power plant changes are required throughout the service life of each aircraft to correct flight safety deficiencies and improve operational readiness while reducing engine operating costs. This program finances the procurement and installation of retrofit kits for all Navy and Marine Corps aircraft engines and related propulsion hardware such as propellers, starters, and transmissions. The overall goal of the modifications budgeted in FY-2001 is to continue modification efforts previously initiated on the engines for the F/A-18, F-14, AV-8B, H-53, H-46, S-3, H-60, E/A6-B, A-6, A-4, H-3, C-2, E-2 , H-2, AH-1, C-130, and P-3 aircraft. The following depicts the current funding levels budgeted and programed for power plant changes:													
(TOA, \$ in Millions)													
OSIP No.	Description	Prior Years		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Complete	To Total
N/A	Power Plant Changes	207.8		17.3	17.2	15.5	17.1	17.1	17.0	17.3	17.7	21.2	365.2
Total		207.8		17.3	17.2	15.5	17.1	17.1	17.0	17.3	17.7	21.2	365.2
Note: Totals may not add due to rounding.													

Exhibit P-3a		INDIVIDUAL MODIFICATION	
MODIFICATION TITLE:		Power Plant Changes (OSIP: N/A)	
MODELS OF SYSTEM AFFECTED:		All Active In-Service Navy and Marine Corps Aircraft	
		TYPE MODIFICATION: Approx. 80% Safety, 20% Reliability	
DESCRIPTION/JUSTIFICATION:			
<p>This program corrects aircraft flight safety deficiencies, improves operational fleet readiness and reduces engine cost of ownership by incorporating approved power plant changes. Power plant changes are required throughout the aircraft service life as the engine ages and operationally revealed deficiencies are discovered, researched, and solutions engineered. The Component Improvement Program (CIP) which is funded in RDT&E,N develops and demonstrates engineering solutions to these deficiencies and through the Engineering Change Proposal (ECP) process, initiates power plant changes. The power plant change program procures the necessary power plant change retrofit kit, its installation, and technical data. This program provides retrofit kits for all Navy and Marine aircraft engines and propulsion related hardware such as propellers, starters, generators, and transmissions. Reliability Improvements are designed to increase Mean Time Between Failure and Mean Time Between Engine Removal by 30% on average and are expected to generate savings/cost avoidance in excess of \$50M annually.</p>			
F110 Engine Program:			
<p>ECP T113 - Turbine Frame Forward Fairing improvement and sheet metal redesign to improve the reliability and life of the Turbine Frame Assembly.</p> <p>ECP T109 - Turbine Frame Oil Tube Bracket and Damper/F-110-GE-400 introduces an anti-rotation bracket and damper to restrain and counteract the torque applied during assemble/disassembly.</p> <p>ECP T119 - Exhaust Nozzle Hinge Joint Corrosion Reduction/F110-GE-400 introduces an improved exhaust nozzle hinge design which will reduce corrosion and disassembly related problems.</p> <p>ECP-T086 - F110-GE-400 Vented IDG Ejector Valve changes the assembly solenoid to vented solenoid to prevent the entrapment of moisture and contaminants within the solenoid assembly, which reduces the corrosion build-up.</p> <p>ECP T130 - Master Chip Detector Relocation moves the MCD to an area which is easily accessible through the daily inspection doors. The redesigned MCD has an improved capture efficiency, and is less prone to leakage</p> <p>ECP T144 - LPT Stg 1 Shroud Life Improvement to provide a shroud configuration that will consistently achieve a 4000 TAC inspection interval. The assembly will eliminate ingestion of flow path air and add a disassembly feature to the shrouds</p> <p>ECP T139 - Fuel Boost Pump Durability Improvement introduces a new Fuel Boost Pump with an increased orifice diameter. This change will prevent the oil supply source from being lost due to contamination in the oil system</p> <p>ECP T151 - Fuel Nozzle Moeller Fittings Introduction to replace the safety wire and to prevent fuel tube failures resulting from chafing of the core fuel manifold pig tail by the termination loop of the safety wire</p> <p>EMSP Improvements to upgrade the EMS from P03/P04/P06 to P09</p> <p>IDG- Air/Oil Heat Exchanger provide a solution to the bypass valve failures</p> <p>Pyrometer Improvements introduce a new pyrometer and new kit to replace the existing pyrometers to reduce maintenance requirements.</p> <p>ECP T158 Front Frame Strut Damper Migration Repair to reduce the potential for damper migration by reworking the product and field configurations .</p> <p>T2.5 Sensor Brazejoint Improvement develops a timely and economical field solution that has minimal customer impact/inconvenience and eliminates the need to replace the 1-2 High Pressure Compressor.</p> <p>CMC Flameholder develops a flameholder design that is more durable then the current HS188 component using ceramic materials.</p> <p>ECP T155 - proposes a new actuator link pin, an improved centrifugal servo (Hydroclone) filter, and a unitized Vairable Stage Vane spring assembly be introudced as improveds to the Main Engine Control (MEC)</p>			
F402 Engine A/V-8B:			
<p>ECP 3641 -Improved Bearing Bolting to correct torque stability of the No. 1 bearing bolted joint assembly and to prevent any detachment of the No. 1 bearing nut and cupwash which was identified as causal factors in a turbine failure and subsequent Class A Mishap.</p> <p>ECP 3586 - Incipient Blockage Indicator on FMU provides enhanced reliability and a more accurate warning of impending operation of the filter bypass valve.</p> <p>ECP 3606 - INCO 718 Bolt introduces Inconel 718 material bolts in place of Jethete material bolts in four engine locations with superior material qualities.</p> <p>ECP 3709C2 IGVC Redesigned bushings introduces a set of modified pump floating bearing bushes embodying a longer locating diameter and reduced 'O' seal diameter to reduce thrust faces tilting away from the gear teeth side face.</p> <p>ECP 3699 Plau Rear Bearing deletes the axial preload spring.</p> <p>ECP 3763 FMU Mod - Safety modification package to the Fuel Metering Unit which will supply a high-pressure fuel supply to the hydro-mechanical backup unit.</p> <p>ECP 3784 Engine Wiring Harness- Encapsulation of main engine harness to prevent foreign material penetration (sand, dust, moisture) into the harness and resultant loss of signal quality</p> <p>ECP 3782 ARMCO Liner Liner/LPC Rear Lip- Fan case liner moves forward and requires a more robust attachment scheme. The LPC fan case rear lip cracks and can fall into the gas path. The redesign fixes the design deficiency.</p> <p>ECP 3683 ECS &EMS P3 Pipe- Provides revisions to the environmental control system and engine monitoring system P3 signal pipe and associated clippings to accommodate earlier redesign of the P3 transducer mount.</p> <p>ECP 3722 Bleed Pipe Extension- Increases sleeve length between stage 3 bleed pipe and heat exchanger to accommodate installation difficulties.</p> <p>ECP 3729 Revised Attachment JPT- Provides revisions to JPT harness with revised attachment nuts to alleviate clearance problems.</p> <p>ECP 3733 Curvic Coupling Corrosion - Introduces corrosion protection to the curvic coupling to eliminate corrosion attack and resultant reduction in component life.</p> <p>ECP 3739 NGV Locating Ring - Introduces an improved outer high pressure stage 1 turbine nozzle guide vane locating ring to alleviate assembly problems.</p> <p>ECP 3744 #2 BRG Seal Housing - Introduces an elongated bore shape to the #2 bearing to correct a design deficiency.</p> <p>ECP 3748 #1 BRG Nut Channel - Revised material and plating the number 1 bearing to alleviate design deficiency.</p> <p>ECP 3771 HP Rotor Nut Revision - Revised high pressure rotor center front nut and cupwasher to improve structural weakness.</p> <p>ECP 3787 DECU Hybrid Circuits - Revised TI thermocouple hybrid circuits to the DECU for improved data accuracy.</p> <p>ECP 3794 FMU Shielded Bearings- Revised fuel metering unit shielded bearings to the stepper motor assembly to alleviate design deficiency.</p> <p>ECP 3797 FMU Bonded Shells- Revised bonded electrical connector shells to the fuel metering unit to improve durability.</p> <p>ECP 3798 PLAU Bonded Shells - Revised bonded electrical connector shells to the power lever angle unit to improve durability.</p> <p>ECP 3800 P3 Transducer New Mount - New vibration isolation mount for the P3 transducer to prevent premature failures of the transducer.</p> <p>ECP 3806 Hot Nozzle Cracking - Redesign of the hot nozzles to minimize or prevent the current problem of cracking and part attrition</p>			

<div>F404 Engine F/A 18C/D:</div> <div>ECP F12 Improved Life Stage Fan Disk, as a result of an uncontained Stg 1 fan Disk field failure and severe damage to the engine and aircraft, a life reduction was induced. The kit for this ECP contains the Torlon spacer which allows the original fan blade configuration to be installed. ECP E65 Alternator Connector Redesign, the internal sealing on the connector of the alternator stator is being changed from an internal rubber grommet-seal design to a woven glass sleeve design impregnated with epoxy varnish to correct deterioration resulting in an "open" or a "shorted" circuit. ECP F11 Redesigned Vapor Relay, Isolator and Bracket due to obsolescence of the current material Eypel. ECP E78 Main Fuel Control Selector Valve replaces the present configuration with a more durable tube having a separate tube holder. Present configuration results in engine power losses and inability to achieve afterburner operation ECP E79 Power Lever Control Improvements to cost-reduced and non cost-reduced Power Lever Controls. The configuration has been redesigned to improve operability and maintainability. ECP E-80 Improved Anti-Icing Valve Flow Indicator Switch; replacement of the flow indicator switch, which has silver contacts, with a configuration containing cobalt-hardened gold contacts in a hermetically sealed enclosure.Field data shows a high number of valves experincing flow switch failures due to oxide build-up on the sivler-plated contacts. ECP L15 Nr. 4 Bearing Rotating Air Seal Damper introduces an improved number 4 bearing rotating air seal damper to the F404. The redesigned damper increases resistance to handling damage and provides positive retention capability in the air seal. ECP A27 VEN Position Transmitter Improvement incorporates a modified rod seal, scraper, and improved material to protect against contaminants which cause seal wear and resultant oil leakage. ECP C67 MFC Manifold Redesign to correct Main Fuel Control (MFC) manifold failures which have resulted in engine core speed hang-up, fuel leakage and flameouts. New design incorporates a new MFC manifold and support bracket to replace theriginal. ECP 70 T1 Caution Capacitor Improvement replaces the present configuration with an improved capacitor to eliminate T1 cautions caused by faulty C51 capacitors.</div> <div>J52 Engine E/A 6/B, A-6, A-4:</div> <div>ECP 95XA013 Redesigned Pressure Ratio and Compressor Stator Controls reduce the susceptibility of contamination that can cause friction between the shank and the reset diaphragm. ECP TBD Thermal Barrier Coated (TBC) 1st Stage Turbine Stator Vane Assembly will increase the durability of the vanes. This change is also required for a 1500 hr engine build. ECP TBD Chordal gauges for more accurate inspection of the compressor blades and improve the efficiency of the compressors.</div> <div>T58 Engine H-3, H-46:</div> <div>ECP 58N-18R1 Improve Reliability T-5 Harness; the current T-5 harness is susceptible to failures which results in lack of or erroneous T5 signal. The proposed T5 Harness with integral lead will reduce the T5 signal failure rate by an estimated factor of 10:1, improving system safety, reliability and maintainability.</div> <div>TF34 Engine S-3:</div> <div>ECP TF34-JAX-001 Reconcile discrepancies contained in ECP 23EG5504, Variable Geometry System Improvements, ECP 23EG5512 Compressor Arm Retention, and ECP 23EG5529 for Improved Compressor Abradable Coating and combine in the correct sequence the improvements into one ECP. The combined approach will streamline incorporation and reduce total maintenance actions including replacement of separate right and left VG linkages with a single improved linkage; installation of VG linkage retaining hardware;and incorporation of an improved stator coating. Incorporation of these modifications will improve readiness.</div> <div>T64 Engine H-53:</div> <div>ECP 64E-55 Improved Single Ring Carbon Seals at the Nos 2,3, and 4 bearing positions with more durable single-ring seals.</div> <div>T700 Engine H-2, H-60, AH-1:</div> <div>ECP 136R2 Nr 2 Bearing Housing and Damper Improvement provides an Output Drive Assembly (ODA) with improved housing, damper and spline lubrication for the No two bearing housing. ECP 122 Stage 3 Rotor Ring adds a stage three containment ring to the power turbine module on all T700-GE-401C and T700-GE-701C engines to compensate for the increase in temperature when these engines operate in aircraft equiped with infra red suppressors. ECP 123 Stage 1 Blade Tip Corrosion Resistance will incorporate an improved tip material to preclude deterioration. ECP 124 Exhaust Frame Drain Hole replaces oil rings and drill drain holes to prevent oil build up in the 730 strut of T-700 exhaust. ECP 125 HydroMechanical Unit (HMU) Improvements prevent internal contamination in the Woodward Governor HMU ECP 126 HMU O Ring - Replaces the Noton O-Ring in the Hamilton Standard HMU with a a Fluorocarbon based O-Ring to prevent fuel leakages.</div>

<div>TF30 Engine F-14A:</div> <div>ECP 95XA039 LDCV Assembly introduces a redesigned solenoid valve assembly featuring a vibration damping spring set against the plunger that will eliminate the wear metal problem which is the prime cause for failure</div> <div>T56 Engine P-3, C-2, E-2, C-130:</div> <div>ECP 2112R1 15 Micron Oil Filter replaces the 104 micron oil filter in both the power section and reduction gear box assembly pressure oil system with 15 micron oil filters on T56 engines.</div> <div>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:</div> <div>All engineering effort will be accomplished prior to procurement of kits</div>
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Exhibit P-3a

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		160.6		35.4		40.8		39.5		39		38.9		38.6		38.4		38.4				
PROCUREMENT																						
Installation Kits																						
F110 Engine (F-14 B/D)																						
ECP T113 - Turbine Frame Forwd Fairg Redesign	71	0.707	80	0.816	80	0.821	60	0.636	46	0.492											337	3.472
ECP T057 - HPT Shroud Cooling Mod	238	0.167	91	0.069																	329	0.236
ECP T109 - Turbine Frame Oil Tube Bracket & Dmp	71	0.076	80	0.075	80	0.065	80	0.067	26	0.030											337	0.313
ECP T119 - Exhaust Nozzle Hinge Joint Corrosion	138				62	0.450	60	0.435	20	0.145											280	1.030
ECP T146 - Combuster Joint Wear	118	0.023	12	0.003	70	0.018	51	0.014													251	0.058
ECP T121 - Nr.2 Bearing Seal Drain Tube Redesign	46	0.020	180	0.097	111	0.060															337	0.177
ECP T086 - Vented IDG Ejector Valve			78	0.101	78	0.106	72	0.102	64	0.094	45	0.071									337	0.474
ECP T130 - Master Chip Detector Relocation							30	0.189	60	0.378	60	0.385	60	0.393	60	0.404					270	1.749
ECP T135 - W6 Cable Chafing Improvement					200	0.015	115	0.011													315	0.026
ECP T142 - MEC RMA Throttle Improvement					200	0.054	137	0.037													337	0.091
ECP T144 - LPT Stg 1 Shroud Improvement							60	0.240	60	0.245	60	0.251	60	0.256	30	0.131					270	1.123
ECP T139 - Fuel Boost Pump Mod							60	0.120	60	0.124	60	0.129	60	0.132	30	0.070					270	0.575
ECP T151 - Fuel Nozzle Moeller Fittings							70	0.154	70	0.161	70	0.168	60	0.147							270	0.630
EMSP IMPROVEMENTS							45	0.112	60	0.150	45	0.120									150	0.382
IDG- AIR/OIL HEAT EXCHANGER							106	0.217	165	0.350											271	0.567
PYROMETER IMPROVEMENTS							30	0.075	60	0.150	60	0.156	60	0.163	60	0.172					270	0.716
ECP-T158- FRONT FRAME DMPER MIGRA R					60	0.082	60	0.084	60	0.090	60	0.090	30	0.048							270	0.394
T 2.5 SENSOR BRAZEJOINT IMPROVEMENT					60	0.012	120	0.024	120	0.024	120	0.024	60	0.012							480	0.096
CMC FLAMEHOLDER					40	0.160	40	0.160	80	0.325	80	0.332	30	0.126							270	1.103
T155 MEC IMPROVEMENT									60	0.060	60	0.060	30	0.030							150	0.150
F402 Engine (A/V-8B)																					0	0.000
ECP 3641 - Improved Bearing Bolting	129	0.027	68	0.017	68	0.018	72	0.018	10	0.003											347	0.083
ECP 3509 - Improved P3 Limiter Capsule	173	0.507	70	0.226	24	0.072															267	0.805
ECP 3525 - AGB Drive Shaft	188	1.507	14	0.112	12	0.098															214	1.717
ECP 3586 - Incipient Blockage Indicator on FMU	60	0.210	46	0.164	58	0.207	58	0.207	53	0.190											275	0.978
ECP 3606 - INCO 718 BOLT							40	0.015	40	0.016	40	0.017	40	0.018							160	0.066
ECP 3725 - Improved DECU Mounting Rails	115	0.257	115	0.317	103	0.287															333	0.861
ECP 3709C2 - IGVC Redesign Bushings			25	0.078	35	0.109	48	0.149	48	0.149	79	0.245	54	0.170	25	0.078					314	0.978
ECP 3699 Plau Rear Bearing							85	0.136	45	0.072											130	0.208
ECP 3763 FMU Mod									31	0.335	20	0.276	27	0.386	38	0.570	39	0.593			155	2.160
ECP 3769 - DECU SOFTWARE	0	0.004	0	0.070																	0	0.074
ECP 3757 - IGVC VACTRIC TRANSMITTER	18	0.030	22	0.020																	40	0.050
ECP F402-002 ENGINE WIRING HARNESS IMP	70	0.126	72	0.139	70	0.142	70	0.158													282	0.565
ECP F402 HP Compressor Coating															147	0.735	150	0.750	803	4.818	1100	6.303
ECP 3784 Engine Wiring harness									50	0.205	50	0.205	50	0.205	50	0.205					200	0.820
ECP 3782 ARMO Liner/LPC Rear Lip									50	0.005	50	0.005	50	0.005	50	0.005					200	0.020
ECP 3683 FCS & EMS P3 Pipe									50	0.040	50	0.040	50	0.040	50	0.040					200	0.160
ECP 3722 Bleed Pipe Extension									50	0.025	50	0.025	50	0.025	50	0.025					200	0.100

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
ECP 3728 Revised Attachment JPT									50	0.050	50	0.050	50	0.050	50	0.050					200	0.200
ECP 3733 Curvic Coupling Corrosion									50	0.200	50	0.200	50	0.200	50	0.200					200	0.800
ECP 3739 NGV Locating Ring									50	0.200	50	0.200	50	0.200	50	0.200					200	0.800
ECP 3744 #2 BRG Seal Housing									50	0.050	50	0.050	50	0.050	50	0.050					200	0.200
ECP 3748 #1 BRG Nut Changes									50	0.050	50	0.050	50	0.050	50	0.050					200	0.200
ECP 3771 HP Rotor Nut Revision									50	0.025	50	0.025	50	0.025	50	0.025					200	0.100
ECP 3787 DECU Hybrid Circuits									50	0.250	50	0.250	50	0.250	50	0.250					200	1.000
ECP 3794 FMU Shielded Bearings									50	0.150	50	0.150	50	0.150	50	0.150					200	0.600
ECP 3797 FMU Bonded Shells									50	0.050	50	0.050	50	0.050	50	0.050					200	0.200
ECP 3798 PLAU Bonded Shells									50	0.050	50	0.050	50	0.050	50	0.050					200	0.200
ECP 3800 Transducer									50	0.250	50	0.250	50	0.250	50	0.250					200	1.000
ECP 3806 Hot Nozzle Cracking									29	0.290	54	0.542	72	0.724	110	1.100	160	1.600			425	4.256
F404 Engine (F/A-18 C/D)																					0	0.000
ECP 3755 - REVISED LPC STG 2 VANE STOPS	20	0.032	42	0.036	46	0.039	48	0.041													156	0.148
ECP C63 - Steel Compressor Case Modification	875	12.719	140	2.082	140	2.105	28	0.420													1183	17.326
ECP E32 - Main Fuel Control Block Change	1604	7.900	154	0.754	84	0.353	96	0.390													1938	9.397
ECP A23 - VEN Actuator Seal	2989	0.961	600	0.204	650	0.221	646	0.194													4885	1.580
ECP E41 - ECU Tan-Tan Capacitor	767	5.778			160	1.160	160	1.180													1087	8.118
ECP F12 - Improved Life Stage 1 Fan Disk	803	0.216	300	0.078	300	0.082	300	0.086	90	0.027											1793	0.489
ECP E65 - Alternator Connector Redesign	850	1.796	250	0.575	250	0.585	162	0.374	159	0.376											1671	3.706
ECP F11 - Redesigned Vapor Relay, Isolator & Bracket							216	0.050	138	0.032											354	0.082
ECP E78 - Main Fuel Control Selector Valve	353	0.061	528	0.092	528	0.092	528	0.092	131	0.023											2068	0.360
ECP E79 - Power Lever Control Improvement			176	0.007	300	0.013	300	0.013	300	0.014	300	0.015	57	0.003							1433	0.065
ECP E80 - Improved Anti-Icing Valve Flow Indicator									450	0.492	580	0.638	680	0.816	676	0.811					2386	2.757
ECP L15 - Nr. 4 Bearing Rotating Air Seal Damper					400	0.080	400	0.084	400	0.088	400	0.092	313	0.078							1913	0.422
ECP A27 - VEN Position Transmitter Improvement	300	0.223	300	0.246	300	0.258	300	0.271	300	0.284	300	0.300	245	0.314							2045	1.896
ECP C67 - MFC Manifold Redesign					84	0.226	540	1.458	545	1.495	450	1.305	444	1.285							2063	5.769
ECP E70 - T1 Caution Capacitor Improvement	340	0.510	315	0.502	320	0.512	300	0.470	300	0.485	223	0.379	197	0.335							1995	3.193
ECP E63 - Bay Fire Ignition Source Elimination	711	1.093	550	1.281	500	1.163	318	0.731													2079	4.268
ECP F404 Turbine Blade Redesign															125	0.587	249	1.245	877	4.648	1251	6.480
J52 Engine (E/A-6B, A-6, A-4)																					0	0.000
ECP 92XA158C1 - Diffusion Bonded IGVs	370	10.363																			370	10.363
ECP 95XA013 - Redesigned Pressure Ratio & Compressor Stator Controls			26	0.051	40	0.091	48	0.107	38	0.092	38	0.101	38	0.106	38	0.110	38	0.124			304	0.782
ECP TBD Thermal Barrier Coated 1st Stage Turbine Stator Vanes									38	1.600	37	1.550	37	1.550	37	1.550	37	1.550			186	7.800
ECP TBD Chordal Gauges									2	0.024											2	0.024
T58 Engine (H-3, H-46)																					0	0.000
ECP 58T-15 - Improved Nr.3 Bearing O-Ring	712	3.291	18	0.083																	730	3.374
ECP 58N-17 T5 Thermocouple Harnesses	683	3.333	100	0.463	85	0.389															868	4.185
ECP 58T-16C2 - NR. 3 SUMP IMPROVEMENT	351	0.324	338	0.312																	689	0.636
ECP 58F-27 - IMPROVED FUEL MANIFOLD KIT	128	0.074	226	0.125	191	0.115	191	0.115													736	0.429
ECP 58N-18R1 - IMPROV RELIABILITY T5 HARN	232	0.652	202	0.523	202	0.526	210	0.550	102	0.270											948	2.521
TF34 Engine (S-3)																					0	0.000
ECP TF34 - JAX 001 - ENGINE COMPRESSOR S	44	0.017	150	0.110					52	0.110	64	0.136	64	0.136	24	0.051					398	0.560

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
T64 Engine (H-53)																					0	0.000
ECP 64E-55 - Impr. Single Ring Carbon Seals	180	0.403	60	0.090	60	0.099	60	0.109	60	0.120	60	0.130	60	0.141	44	0.106					584	1.198
ECP 64T-20 MID SUMP DRAIN	157	0.399	324	0.614	273	0.559	274	0.684													1028	2.256
ECP T64 Improved Main Fuel Control															160	0.480	200	0.600	638	1.914	998	2.994
T700 Engine (H-2, H-60, AH-1)																					0	0.000
ECP 700117C1 Interstage Seal Improvement	418	0.636	132	0.230																	550	0.866
ECP 136R2 - Nr.2 Bearing Housing & Damper Improvement									150	1.200	200	1.620	200	1.660	200	1.700	200	1.740	348	3.097	1298	11.017
ECP 122 - Stage 3 Rotor Ring							255	0.510	209	0.439	209	0.439	209	0.460	209	0.460	207	0.476			1298	2.784
ECP 123 - Stage 1 Blade Tip Corrosion Resistance					40	0.600	50	0.755	136	2.077	169	2.603	189	2.911	190	2.945					774	11.891
ECP 124 - Exhaust Frame Drain Hole					200	0.200	200	0.200	200	0.200	200	0.220	200	0.220	200	0.220	200	0.220	98	0.108	1298	1.368
ECP 125 - HydroMechanical Unit (HMU) Improvements							52	0.208	52	0.213	95	0.399	104	0.447	108	0.497	108	0.497			519	2.261
ECP 126 - HMU O-Ring									85	0.340	153	0.627	153	0.627	176	0.792	176	0.792	36	0.180	779	3.358
ECP T700 Turbine Blade Redesign															57	0.400	443	3.195	917	6.660	1417	10.255
TF-30 Engine(F-14A)																					0	0.000
ECP 93XA008 - Automatic Restart Switch	404	0.117	210	0.056	169	0.047															783	0.220
ECP 95XA039 - LDCV Assembly	188	0.027	168	0.039	170	0.035	158	0.031	99	0.024											783	0.156
ECP 87XA046C1 - MGB Deaeration Carbon Seal	474	0.098	114	0.017	120	0.018	75	0.011													783	0.144
ECP 91XA093A - Nr.4 Bearing Seal Torque Pins	493	0.125	200	0.081	90	0.049															783	0.255
T56 Engine (P-3, C-2, E-2, C-130)																					0	0.000
ECP 2112R1 - 15 Micron Oil Filter	556	0.599	860	0.753	860	0.779	576	0.507	576	0.511	576	0.515									4004	3.664
ECP 2115	70	0.112	35	0.055																	105	0.167
COMPLETED ECPS FROM PRIOR YRS		109.451																			0	109.451
Installation Kits N/R																					0	0.000
Installation Equipment																					0	0.000
Installation Equipment N/R																					0	0.000
Engineering Change Orders																					0	0.000
Data						0.029		0.050		0.050		0.050		0.050		0.050		0.050			0	0.329
Training Equipment																					0	0.000
Support Equipment																					0	0.000
ILS		0.738		0.580		0.680		0.600		0.495		0.500		0.495		0.505		0.505			0	5.098
Other Support		19.651		3.136		2.622		0.441		0.456		0.259		0.258		0.253		0.320			0	27.396
Interim Contractor Support																					0	0.000
Installation Cost		22.456		1.807		1.537		1.558		1.374		1.290		1.221		0.929		0.501		CONT.	0	32.673
TOTAL PROCUREMENT	16,507	207.816	7,471	17.286	7,733	17.240	8,050	15.495	6,543	17.062	5,684	17.088	4,563	17.010	3,493	17.272	2,397	17.703	3,717	21.245	66158	365.217

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

All Active In-Service Navy and Marine Corps Aircraft

MODIFICATION TITLE: Power Plant Changes (OSIP: N/A)

INSTALLATION INFORMATION:

The tables below list the quantities, installation schedules, and costs for those ECPs for which there is an installation cost. Of those ECPs with installation costs, three are not shown as they are labor-only modifications and require no kit. The reason they are not shown in these tables is that the procurement quantity and installation quantities would not be equal.

METHOD OF IMPLEMENTATION:

Current with engine/module repair (where installation cost is zero), or by forced retrofit (shown below).

ADMINISTRATIVE LEADTIME:

Average 6 monthsMonths

PRODUCTION LEADTIME:

Average of 12 months

CONTRACT DATES:

FY 1998: Varies

FY 1999: Varies

FY 2000: Varies

FY 2001: Varies

DELIVERY DATE:

FY 1998: Varies

FY 1999: Varies

FY 2000: Varies

FY 2001: Varies

(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (3220) kits	891	1,108	1,054	1,368	1,042	1,115	233	249													3,220	3,840
FY 1999 (1250) kits					270	235	821	1,040	159	169											1,250	1,444
FY 2000 (1131) kits							249	103	823	1,021	59	64									1,131	1,188
FY 2001 (1240) kits									185	27	1,055	1,008									1,240	1,035
FY 2002 (1263) kits											216	58	1,047	945							1,263	1,003
FY 2003 (1064) kits													154	115	910	925					1,064	1,040
FY 2004 (746) kits															30	36	716	501			746	537
FY 2005 () kits																					0	0
To Complete () kits																					0	0
TOTAL	891	1,108	1,054	1,368	1,312	1,350	1,303	1,392	1,167	1,217	1,330	1,130	1,201	1,060	940	961	716	501	0	0	9,914	10,087

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	891	280	260	260	254	335	337	340	300	323	330	330	320	290	300	280	297	340	345	345	300	320	300	290	291
Out	891	270	260	260	264	320	330	350	312	318	325	340	320	285	295	285	302	328	340	335	327	300	310	295	296

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	240	230	240	230	191	185	180	160	0	9914
Out	220	245	245	230	165	150	200	201	0	9914

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOMENCLATURE					
Aircraft Procurement, Navy/APN-5 Aircraft Modifications							Common ECM Modifications					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY												
COST (In Millions)	470.0	A	31.4	34.6	54.3	41.9	50.0	45.8	38.1	41.3	284.5	1,153.7
This line item funds common equipment (B kits) for multiple aircraft. The overall goal of the modification budgeted in FY 00 is to provide a reprogrammable radar and missile warning system, provide attacking missile declaration and sector direction finding, laser detection, and self-protection capability devices to applicable user aircraft.												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Complete	Total
114-85	AN/ALR 67(V)2	202.2	2.0	6.7	7.8	5.1	5.0	5.0				233.7
72-88	AN/AAR 47 MAWS Hardware	127.7	17.1	7.6	5.8	14.7	17.4	9.5	7.9	6.7	11.9	226.2
14-90	AN/APR-39 (V)2 RWR & AN/AVR 2 Hardware	122.0	12.4	9.0	10.4	2.7	1.7				76.6	234.8
30-92	LAU 138A/A BOL System	35.7			0.7	1.9	0.6	0.8				39.7
22-97	ASPJ	44.3		1.0								45.3
26-99	AN/ALR 67(V) 3& 4			10.2	24.4	10.4	16.7	21.0	20.4	22.5	171.1	296.7
06-00	ALE-39 to 47 Retrofit				5.1	7.2	8.6	9.6	9.8	12.1	24.9	77.2
	Total	531.9	31.4	34.6	54.3	41.9	50.0	45.8	38.1	41.3	284.5	1,153.7
Note: Totals may not add due to rounding.												

Exhibit P-3a		Individual Modification																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
MODIFICATION TITLE:		AN/ALR-67(V)2 Radar Receiving Set (OSIP 114-85)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
MODELS OF SYSTEMS AFFECTED:		F/A-18, F-14, AV-8B									TYPE MODIFICATION: Mission Capability																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
<p>DESCRIPTION/JUSTIFICATION: This Operational, Safety and Improvement Program (OSIP) provides for the procurement of common equipment for the F/A-18, AV-8B, and F-14 aircraft. Provisions, i.e., airframe changes needed for the installation of this equipment, are budgeted separately.</p> <p>The AN/ALR-67(V)2 is an airborne radar warning receiver and EW Bus controller system for advanced tactical aircraft. The TEMP, CNO Project Number 521, AN/ALR-67(V)2, defines the requirement. The system provides radar band frequency coverage, displays threat azimuthal bearing, provides audio warning for critical threats and coordinates the operation of onboard electronic warfare equipment. The ALR-67(V)2 is an old system that is planned to be used through the year 2015 on the F/A-18C/D and AV-8B aircraft and 2007 on the F-14. The total number of systems is 1209, including F-14, F-18 A,B,C,D, and AV-8B aircraft. A rewrite of the AN/ALR-67(V)2 software in High Order Language (HOL) will improve maintainability to allow for future growth and reduced technical risk, costs and schedule. The HOL software will be used to implement low cost, low risk performance upgrades to the system. This upgrade is planned to provide increased detection ranges, direction of arrival (DOA) improvements and decrease ambiguities to improve situational awareness. An Operational Requirement Document (ORD) that documents the upgrade requirements is expected to be approved in FY 1999. Interim requirement guidance has been given by N880.</p> <p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The contractor delivered the HOL software in first quarter 99. Development and testing is being conducted within the government with release scheduled for third quarter FY 2000. Due to an increase in program funds in FY 99, initial performance upgrades were incorporated in the FY 2000 scheduled software release, with follow-on improvements slated for release in FY 2002. A contract award is planned for third quarter FY 2000 for the initial performance upgrades. The upgrade program will improve the AN/ALR-67(V)2 for F-14B/D and AV-8B (230 aircraft) that will not receive the AN/ALR-67(V)2.</p> <p>FINANCIAL PLAN: (TOA, \$ in Millions)</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Prior Years</th> <th colspan="2">FY 1998</th> <th colspan="2">FY 1999</th> <th colspan="2">FY 2000</th> <th colspan="2">FY 2001</th> <th colspan="2">FY 2002</th> <th colspan="2">FY 2003</th> <th colspan="2">FY 2004</th> <th colspan="2">FY 2005</th> <th colspan="2">To Complete</th> <th colspan="2">Total</th> </tr> <tr> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> <th>Qty</th> <th>\$</th> </tr> </thead> <tbody> <tr> <td>RDT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> 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Complete		Total		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	RDT&E																							PROCUREMENT																							Installation Kits																							AN/ALR-67(V)2 kit	133	23.3																			133	23.3	Installation Kits N/R																							Installation Equipment																							V2 Upgrade Equip	194	45.7			8	0.1	158	1.6	78	0.8	152	2.5	120	3.0							710	53.6	Installation Equipment N/R						1.6		3.3		1.6		0.2										6.7	Engineering Change Orders																							V2 Upgrade Equip		72.1		*																		72.2	Data		3.0				0.2		0.2		0.4		0.2		*								4.1	Training Equipment		0.8				*		0.1		0.1		0.1										1.0	Support Equipment		11.6		0.1		1.4		0.1		0.5		0.1										13.8	ILS		2.8		0.3		0.4		0.4		0.4		0.3		0.3								4.9	Other Support		42.8		1.5		3.0		2.3		1.3		1.6		3.0		1.6						54.1	Interim Contractor Support		0.1																				0.1	Installation Cost																							Total Procurement		202.2		2.0		6.7		7.8		5.1		5.0		5.0								233.7
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Other Support		42.8		1.5		3.0		2.3		1.3		1.6		3.0		1.6						54.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Total Procurement		202.2		2.0		6.7		7.8		5.1		5.0		5.0								233.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/AAR-47 Missile Approach Warning System (MAWS) (OSIP 72-88)

CH-46E, CH-53A/D/E, RH-53D, MH-53E, UH-1, AH-1, C-130,

MODELS OF SYSTEMS AFFECTED: P-3, HH-60H, SH-60B, VH-3, VH-60, V-22TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The AN/AAR-47 warns of approaching missiles by detecting radiation associated with the rocket motor and automatically initiates flare ejection. Detection algorithms are used to discriminate against non-approaching radiation sources. The AN/AAR-47 is a passive missile approach warning system consisting of four sensor assemblies housed in two or more sensor domes, a central processor unit and a control indicator. The AN/AAR-47 provides attacking missile declaration and sector direction finding (DF) and will be interfaced directly to the ALE-39/47 countermeasures dispenser. Without the AAR-47, helicopters and Fixed Wing Aircraft have no capability to detect an infrared (IR) missile attack.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Milestone II was passed in 1982. A contract for eight Engineering Models was awarded to Honeywell (now Lockheed Martin) in Mar 83, with fixed-price options for up to 810 production systems. OPEVAL (on the CH-53E) was passed in Oct 86.

Milestone III was passed in May 87 for full production with extension of application to all other platforms. Production of 709 systems and preparation of a Level III data package followed, with deliveries completed in early 1992. Under full and open competition, a contract for up to 1200 systems was awarded to Hercules (now Alliant) in Dec 91. Actual orders were for 1122 systems with deliveries completed in Jan 97. Under full and open competition, a contract for up to 1077 systems was awarded to Lockheed Martin in Sep 95. Deliveries began in Jan 97 and were completed in Jul 99.

There are two upgrade programs: FY-97/98/99 funds a microprocessor upgrade to replace the current 8086 board with an 80486 running new software to enhance threat declaration and to better control false alarms. This software will deliver the maximum performance attainable using current sensors. FY-01 and beyond also funds a sensor upgrade. The current sensors are starting to wear out after 5 years, due to temperature sensitive materials. The new sensors will remove this limitation and will also provide improved performance. This will allow the AAR-47 to better respond to new threats via software changes only. Both upgrades are 100 percent retrofit. There are 2500 systems for installation on all applicable aircraft. The TEMP # 543 documents the current requirement. ORD #500-88-98 documents existing requirements for the upgrades.

FINANCIAL PLAN: (TUA, \$ IN MILLIONS)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		24.0																				24.0
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
AAR-47 Equip	1,250	90.2																			1,250	90.2
Installation Equipment N/R																						
CP Upgrade N/R		4.7																				4.7
Sensor Upgrade N/R				12.3																		12.3
Engineering Change Orders																						
CP Upgrade Equip ECO	405	2.3	247	1.5	598	3.2															1,250	7.0
Sensor Upgrade Equip ECO									295	13.5	345	16.3	175	8.5	140	6.8	110	5.5	185	11.1	1,250	61.7
Data		0.3		*				*														0.3
Training Equipment	4	0.6		*				*													4	0.6
Support Equipment		4.3						1.0														5.3
ILS		4.1		0.2		0.5		0.2		0.3		0.3		0.3			0.3		0.3			6.5
Other Support		21.1		3.1		3.9		4.6		0.9		0.8		0.8		0.9		1.0		0.6		37.6
Interim Contractor Support																						
Installation Cost		*																				*
Total Procurement		127.7		17.1		7.6		5.8		14.7		17.4		9.5		7.9		6.7		11.9		226.2

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/APR-39A(V)2/AN/AVR-2/2A(V) Electronic Warfare Receivers (OSIP 14-90)AN/APR-39(V)2:AH-1W, AH-1Z, UH-1N, UH-1Y, HH-60H, CH-53D/E/HM-53E, KC-130F/R/T, VH-3DMODELS OF SYSTEMS AFFECTED: VH-60N, SH-60B,MV-22; AN/VR-2/2(V):AH-1W, AH-1Z, MV-22, UH-1N, UH-1Y TYPE MODIFICATION: Mission CapabilityVH-3, VH-50, HH-60H, SH-60R

DESCRIPTION/JUSTIFICATION: The AN/APR-39A(V)2 Radar Signal Detecting Set (RSDS) is designed for use on US Marine Corps, US Navy, and US Army Assault Support aircraft to provide onboard warning of radar threats. The AN/APR-39A(V)2 provides control and display of the entire Assault Support Equipment(ASE) Suite, and is required for control and display of the AN/AVR-2/2A(V) and the AAR-47. The system consists of five antennas, one Cockpit Control Unit, one or two Display indicators, two to four receivers, and one processor. The AN/AVR-2/2A(V) laser detection set (LDS) is designed for use on U.S. Army, U.S. Marine Corps, and U.S. Navy Assault Support aircraft. The AN/AVR-2/2A(V) reduces the susceptibility of helicopters to attack from laser guided and laser aided threats by providing warning of laser illumination. The system consists of four to six sensor units and one or two comparators. The system requires the APR-39A(V)2 Cockpit Control Unit for On/Off and BIT. AVR-2/2A(V) warnings are displayed on the APR-39A(V)2 cockpit display.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The U. S. Army awarded a production contract for the AVR-2 in FY 90. Production contract for the AVR-2A(V) was awarded in FY 94. Procurement for the U.S. Marine Corps and the U.S. Navy will be via Military Interdepartmental Purchase Request (MIPR) to the U.S. Army.

The AN/APR-39A(V)2 is in the production phase of development (MSIII 3Q/96). The U.S. Navy is the lead service of this joint service program. The U.S. Army awarded the production contract 3Q/96, and continues to administer the contract. First Article Test (FAT) system delivery to the U. S. Navy was completed in FY 99. Delivery of production systems commenced June 99. Procurement of an AN/AVR-2/2A(V) in the AN/APR-39(V)2 for the additional requiring platforms will be by extension of application with the required follow-on test and evaluation conducted on each platform.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		6.8																				6.8
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
AN/AVR-2/AN/APR-39A Equip**	503	72.5	60	8.7	21	3.1	40	5.7											442	75.8	1,136	165.9
Installation Equipment N/R		16.7		*																		16.7
Engineering Change Orders																						
Equip ECO		8.3		0.9		1.3		1.3		0.4		0.6										12.7
Data		0.8		*				*		*		*								0.1		1.0
Training Equipment		0.7		0.2		*		0.1		0.1												1.0
Support Equipment		2.0		0.1		*				*												2.1
ILS		5.1		0.4		0.1		0.4		0.3		0.6										6.9
Other Support		15.8		2.1		4.5		2.9		1.9		0.6								0.8		28.6
Interim Contractor Support																						
Installation Cost																						
Total Procurement		122.0		12.4		9.0		10.4		2.7		1.7								76.6		234.8

Notes:

1. Totals may not add due to rounding 3. APR-39A(V)2: 62 install quantity kits procured for test assets, SSA, simulators, and maintenance trainers.
2. Asterisk indicates amount less than \$50K 4. Procurement of 31 APR-39A(V)2 kits for KC-130 replaces APR-39A(V)1 kits currently installed and will utilize existing "A" kits.

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: LAU 138/A/A BOL System (OSIP 30-92)

MODELS OF SYSTEMS AFFECTED: F-14 A/B/D and F/A-18 C/D and upgrade and other aircraft TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The original Operational, Safety and Improvement Program (OSIP) provided for the initial installment, procurement of common ECM equipment (LAU-138/BOL), logistics, etc. for the F-14 A/B/D and upgrade aircraft. The BOL system (LAU-138A/A) is composed of an electro-mechanical chaff dispenser (D-46/ALE-39), a modified "Sidewinder" guided missile launch rail, a Nitrogen Receiver, and an Interconnecting Box (J-4937/ALE-39). The system was procured on a basis of two systems per aircraft, but up to four may be carried on the F-14. A total of 400 LAU-138A/A systems were procured. The associated remaining aircraft Kit install schedule/funding by PMA 241 is found in OSIPs 33-92 and 44-92. This update reflects funding for Engineering Changes required to the pool of launchers/dispensers for changes necessary for compatibility with the new ALE-47 Countermeasures Dispensing System, the upgraded ALE-39 to 47 retrofit conversions (OSIP 6-00), and addresses changes to the launcher to correct some corrosion issues to improve reliability and expendable accountability.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: 400 LAU 138A/As were procured as non-developmental items under two separate contracts and are now operationally deployed on F-14 aircraft. Full logistics support and spares support are not yet in place. 25 Common Rack and Launcher Test Sets (CRLTS) adapters are needed to fill SERMIS requirements to replace the interim ULM-5 Test set. Two FCMD BOL dispenser configurations were provided under a Foreign Comparative Test Program and six more are needed for evaluation on the F/A-18 C/D, AV-8B, and other aircraft. The pool of 400 launchers under PMA 201 control will be modified by a contractor and/or Depot level field level teams for ALE-47 compatibility and improved reliability/accountability.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		5.8																				5.8
PROCUREMENT																						
Installation Kits D46-ALE-39	54	0.4					10	0.1	350	1.6	40	0.2									454	2.3
Installation Kits N/R		0.2						0.3														0.4
Installation Equipment																						
Equip	1,630	24.8																			1,630	24.8
Installation Equipment N/R		0.1																				0.1
Engineering Change Orders																						
Equip ECO TBD		1.8																				1.8
Data		0.6																				0.6
Training Equipment		0.2																				0.2
Support Equipment		2.8						0.1		0.1												3.0
ILS		3.1					*			0.1		0.1		0.2								3.5
Other Support		1.8						0.2		0.2		0.3		0.6								3.0
Interim Contractor Support																						
Installation Cost																						
Total Procurement		35.7						0.7		1.9		0.6		0.8								39.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K.

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: ASPJ (OSIP 22-97)MODELS OF SYSTEMS AFFECTED: F/A-18 C/DTYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The AN/ALQ-165 is a fully integrated internally mounted Electronic Protection (EP) system capable of detecting, identifying and countering modern land, sea and airbased radar threats. In FY97 Congress directed procurement of additional AN/ALQ-165 systems and racks for installation in F/A-18C/D aircraft to support emergent operational requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Development of the system was completed and LRIP I procurement was approved by the DAB in June 1989. Production contracts were terminated in Dec 1992. Installation kits have been provisioned for all F/A-18C/D aircraft capable for AN/ALQ-165 installation. FY 1997 contract was awarded first quarter FY 98 to comply with Congressional direction. Contract to update 1000 racks for F/A-18C/D/E/F was awarded last qtr FY99.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
ASPJ Equip	36	39.4																			36	39.4
Racks		3.2			1.0																	4.2
Installation Equipment N/R		0.8																				0.8
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS		0.5																				0.5
Other Support		0.5																				0.5
Interim Contractor Support																						
Installation Cost																						
Total Procurement		44.3			1.0																	45.3

Notes:

1. Totals may not add due to rounding

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/ALR-67(V)3&4 Radar Receiving Set (OSIP 026-99)MODELS OF SYSTEMS AFFECTED: F/A-18TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: This Operational, Safety and Improvement Program (OSIP) provides for the procurement of common equipment for the F/A-18. Provisions, i.e., airframe changes needed for the installation of this equipment, are budgeted separately.

The AN/ALR-67(V)3 is a radar warning receiver designed to enhance pilot situational awareness by providing accurate identification, lethality and azimuth displays of hostile and friendly emitters. It also controls the electronic warfare (EW) data bus and interfaces with other EW systems, the onboard radar, airborne mission computer, and other weapons systems. The Radar Warning Receiver's (RWR) Operational Requirements Document (ORD) number is 360-88-94 dated 27 May 94. The total number of systems is 698 (150 F/A-18 C/Ds and 548 F/A-18 E/Fs).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ALR-67(V)3 system is in the Production Fielding/Deployment and Operational Support Phase. The system received Milestone III approval in July 99 and awarded a full rate production contract option in August 99. OPEVAL was successfully completed in Feb 99. First production delivery will be in July 2000.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		185.8		15.6		2.3																203.7
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
AN/ALR-67(V)3 Equip **					4	6.6	10	13.4	3	4.2	8	10.6	10	11.7	9	10.5	10	11.6	108	144.7	162	213.2
Installation Equipment N/R																						
Engineering Change Orders							5.7		1.6		0.5		3.0		2.4		6.1		4.3			23.7
Equip ECO																						
Data							*				0.3		0.2									0.5
Training Equipment																						
Support Equipment							1.3		0.6		1.2		1.9		3.2		0.4		0.3			9.0
ILS							0.1						*		*		*		0.4			0.6
Other Support					3.6		3.9		4.1		4.1		4.2		4.2		4.4		21.4			49.8
Interim Contractor Support																						
Installation Cost																						
Total Procurement						10.2		24.4		10.4		16.7		21.0		20.4		22.5		171.1		296.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/ALE-47 Dispenser System Retrofit (OSIP 06-00)MODELS OF SYSTEMS AFFECTED: EA-6B(96), F-14B/D (107), F/A-18 C/D (LOTS 10-17(527), S-3B(114), C-130T(2 TYPE MODIFICATION: Mission Capability
KC-130F(35)

DESCRIPTION/JUSTIFICATION: The replacement of the AN/ALE-39 Dispenser System with the AN/ALE-47 Dispenser System will correct some serious safety problems while at the same time greatly improve aircraft survivability. The AN/ALE-39 system has serious problems with Things Falling Off Aircraft (TFOA) as well as numerous occurrences of uncommanded firing of chaff and flare stores. The reliability of the ALE-39 is another major factor with continuous reports of hung or unfired stores, a serious ground safety concern as well as a serious aircraft survivability concern. The AN/ALE-47 System has been developed to correct the safety issues of the ALE-39. It is a Threat Adaptive Countermeasures System designed to counteract the threats of today's hostile environments. USD(Acq) memo of Nov 86 directed U.S. Navy and U.S. Army to participate in EMD phase. Air Force Statement of Operational Requirements Document (SORD) number 341.88-11-D of 8 July 92.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ALE-47 System is in production and being installed in multiple U.S. Navy and Marine aircraft. MS III decision awarded Mar 93. FY 00 systems to be procured under Air Force contract F33657-96-D-0001. FY 01-05 systems to be procured under follow on ID/IQ contract.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
AN/ALE-47 Equip							80	3.4	129	5.6	154	6.6	179	7.6	170	7.6	208	9.4	454	20.3	1,374	60.5
Installation Equipment N/R								0.5		0.4		0.4		0.4		0.4		0.5		0.8		3.3
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment								0.4		0.6		0.8		0.9		1.0		1.2		2.5		7.3
ILS								0.1		0.1		0.1		0.1		0.1		0.1		0.2		0.9
Other Support								0.7		0.5		0.6		0.5		0.7		0.9		1.1		5.1
Interim Contractor Support																						
Installation Cost																						
Total Procurement								5.1		7.2		8.6		9.6		9.8		12.1		24.9		77.2

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K.

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE:		February 2000			
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NOMENCLATURE					
Program Element for Code B Items:							Common Avionics					
							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QTY		A										
COST (In Millions)	387.9	A	126.0	99.8	81.1	71.6	90.0	87.8	109.5	101.2	287.1	1,441.9
This line item funds common avionics equipment for multiple aircraft. With the exception of OSIPs 43-94 (Flight Data Recorders), 14-97 (KC-130T GPWS), 17-98 (Helo GPWS), and 24-99 (CAS), the individual aircraft platforms fund the "A" kits and installation in the appropriate aircraft line.												
The specific modifications budgeted and programmed are: (1) The NAVSTAR GPS (Global Positioning System) is designed to provide a highly accurate passive position (16 meters) velocity (0.1 meter/sec) and time to users worldwide in all weather conditions. The GPS will interface with communication, navigation, and weapon systems equipment (standard attitude heading reference systems, inertial navigation systems, on-board computers, etc.) in selected applications. GPS is a DoD mandated requirement for all aircraft operating in the National Air Space System after the 2000. (2) The Structural Data Recording Set records the flight parameters necessary to accurately determine, track, and manage the fatigue life of the aircraft and critical structural components. Fatigue life monitoring is the only means to ensure the structural life safety and to maximize the service life of fleet aircraft. (3) The AN/ARC-210 Electronic Protection (EP) Combination Radio provides dual UHF capability for CV based TACAIR; VHF AM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities. The AN/ARC-210 can be controlled by either a remote control unit or via MIL-STD-1553 multiplex data bus. (4) The Crash Survivable Flight Incident Recorder is a crash hardened recorder which will be used in support of aircraft mishap and incident investigations. (5) The Embedded Global Positioning System/Inertial Navigation System (EGI) contains full Precise Position Service GPS on a single electronic module, plus a state-of-the-art Ring Laser Gyro inertial navigation system. (6) The AN/ARC- 182 Reuse Programs utilizes previously procured AN/ARC-182 systems which will become available as the AN/ARC-210 system is retrofitted into Navy aircraft. (7) The Ground Proximity Warning system provides visual and aural warnings to the pilot when the aircraft is in conditions that could result in a controlled flight into terrain accident. (8) The Collision Avoidance System (CAS) will provide a display of situation awareness to aid in the prevention of midair mishaps. (9) The AWW-13 data link pod provides Man-In-The-Loop weapon control for Walleye, SLAM ER, and JSOW Unitary precision guided munitions. (10) The Tactical Air Moving Map Capability (TAMMAC), the common solution for US Naval Aviation, provides a common tactical aircraft moving map and data loading capability and replaces current obsolete Fleet equipment. (11) The Advanced Mission Computer and Display (AMC&D) system will replace existing aging/obsolete and performance limited AN/AYK-14(V) Mission Computer and Contractor Furnished Equipment Displays. The overall goal of the modifications budgeted in FY 2001 is to procure the common equipment required for the individual aircraft platforms. The specific modifications budgeted and programmed are:												
(TOA, \$ in Millions)												
OSIP No.	Description	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
71-88	NAVSTAR GPS (Hardware)	171.5	54.2	27.4	9.2	13.1	16.2	13.8	15.1	10.1	61.8	392.5
14-92	SDRS (Hardware)	21.4	0.3									21.8
4-94	AN/ARC-210 (Hardware)	116.2	31.1	25.7	21.1	17.2	15.3	13.3	17.9	12.7	34.0	304.4
43-94	Flight Incident Recorders	38.5	11.6	5.8	7.1	7.1	6.8	6.6	2.2	1.2	0.6	87.5
38-95	EGI (Hardware)	37.2	10.3	12.1	4.7	4.3	1.5	0.8	13.8	23.4	3.0	111.1
40-95	AN/ARC-182 Reuse Program	1.1	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.0	2.6
14-97	KC-130T GPWS	1.9	3.1	7.6	12.1	8.9	10.2	16.2	13.8	12.0	19.1	104.8
17-98	Helo GPWS		8.9	12.6	11.1	9.8	8.0	7.8	5.6	1.2		64.9
22-98	AWW-13		2.4									2.4
25-98	Collision Avoidance System		3.6	8.3	15.6	11.1	7.4	2.7	0.9	0.3	12.8	62.8
-02	Tactical Air Moving Map Capability						5.9	10.7	13.4	15.5	39.2	84.7
-02	AMC&D/ MPCD						18.6	15.7	26.6	24.9	116.6	202.5
	Total	387.9	126.0	99.8	81.1	71.6	90.0	87.8	109.5	101.2	287.1	1,441.9
Note: Totals may not add due to rounding.												

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 71-88)MODELS OF SYSTEMS AFFECTED: All aircraftTYPE MODIFICATION: Common Avionics (Safety) (Added Capability)

DESCRIPTION/JUSTIFICATION: The NAVSTAR GPS is designed to provide highly accurate passive position (16 meters), velocity (0.1 meter/sec) and time to users worldwide in all weather conditions. GPS will be integrated with communication, navigation, and weapon systems equipment (attitude heading reference systems, inertial navigation systems, mission computers, etc.). This OSIP procures only the GPS B-kit equipment (receiver, CDNU, DDS, SDC, etc.) as required for the above platforms. Hardware configuration varies depending on the TMS of the aircraft. Approximately 2500 aircraft will be modified with equipment provided through this OSIP. The Global Positioning System Operational Requirement Document (ORD) 003-78 dated 22 Jan 90 was based on an Air Force General Operating Requirement (GOR) dated 28 Jan 1978.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NAVSTAR GPS program completed Phase II (Full Scale Engineering Development) and completed Milestone IIIA (Approval for Limited Production) in June 1986. Milestone IIIB (Approval for Full Production) was completed in January 1992. Research, Development, Test and Evaluation, Navy (RDT&E,N) is funded under program element #0604777N.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																					0	0.0
PROCUREMENT																					0	0.0
Installation Kits																					0	0.0
NAVWAR									140	2.2	222	3.5	90	1.5	134	2.2	58	1.0	462	8.0	1,106	18.4
Installation Kits N/R																					0	0.0
Installation Equipment																					0	0.0
GPS	1,564	127.1	334	33.0	112	10.8	18	1.4	19	1.5					12	1.2	13	1.3	51	5.1	2,123	181.4
NAVWAR									140	4.3	222	7.0	90	2.9	134	4.4	58	1.9	462	16.1	1,106	36.6
Installation Equipment N/R		1.8		8.2		7.8															0	17.8
Engineering Change Orders																					0	0.0
Data		3.7		1.0		1.0		1.0		1.0											0	7.7
Training Equipment																					0	0.0
GPS	77	5.4	32	2.3	5	0.2									1	*	1	*	6	0.1	122	8.0
NAVWAR																					0	0.0
Support Equipment		0.3																			0	0.3
ILS																					0	0.0
Other Support		33.2		9.7		7.6		6.8		4.1		3.3		3.3		1.9		1.9		10.3	0	82.1
Interim Contractor Support																					0	0.0
Installation Cost																					0	0.0
NAVWAR											70	2.3	181	6.2	156	5.4	112	4.0	587	22.2	1,106	40.1
Total Procurement		171.5		54.2		27.4		9.2		13.1		16.2		13.8		15.1		10.1		61.8		392.5

Notes:

1. Totals may not add due to rounding.
2. Asterisk indicates amount less than \$50K.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: All aircraft

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 71-88)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Equipment is provided to the platform PMA and installed as per airframe ECP.

ADMINISTRATIVE LEADTIME: three to six Months

PRODUCTION LEADTIME: nine to eighteen Months

CONTRACT DATES: FY 1998: Mar-98

FY 1999: Mar-99

FY 2000: Mar-00

FY 2001: Mar-01

DELIVERY DATE: FY 1998: Apr-99

FY 1999: Apr-00

FY 2000: Apr-01

FY 2001: Apr-02

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
NAVWAR Installs	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																					0	0.0
FY 1999 () kits																					0	0.0
FY 2000 () kits																					0	0.0
FY 2001 (140) kits											70	2.3	70	2.4							140	4.7
FY 2002 (222) kits													111	3.8	111	3.9					222	7.7
FY 2003 (90) kits															45	1.5	45	1.6			90	3.1
FY 2004 (134) kits																	67	2.4	67	2.4	134	4.8
FY 2005 (58) kits																			58	2.2	58	2.2
To Complete (462) kits																			462	17.6	462	17.6
TOTAL	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	70	2.3	181	6.2	156	5.4	112	4.0	587	22.2	1,106	40.1

Installation Schedule (NAVWAR)

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																				35	35	35	35	55	56
Out																				35	35	35	35	55	56

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	55	56	22	23	22	23	33	34	587	1,106
Out	55	56	22	23	22	23	33	34	587	1,106

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Structural Data Recording Set (SDRS), AN/ASH-37 (OSIP 14-92)MODELS OF SYSTEMS AFFECTED: F-14, C-130, P-3, AH-1W, ES-3TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

Fatigue life monitoring is the only means to ensure the structural life safety and to maximize the service life of fleet aircraft. Existing fatigue monitoring systems are limited to gathering a single flight parameter, vertical acceleration or "G's". Other flight parameters (such as airspeed, altitude, roll rate, and aircraft weight) which significantly affect aircraft loading severity are not recorded but are essential to accurately characterize individual aircraft fatigue life usage and, hence, maintain the highest level of fleet structural safety. The SDRS will record the flight parameters necessary to accurately determine, track and manage the fatigue life of the aircraft and critical structural components. This OSIP procures only the SDRS airborne hardware and ground station equipment.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The SDRS completed full scale engineering development in June 1989. Full rate production of both the airborne system and the ground station commenced in FY 1989 and is complete. Retrofit of the SDRS into the C-130 and AH-1W were completed during FY97. Incorporation into the C-2, E-2C, and F-14 is scheduled to be completed by early FY99. Technical difficulties caused slippage in starting retrofit into the P-3C and the S-3B. Validation / Verification installations and checkouts on the P-3C and S-3B were completed and the field modification program commenced in June 1998. Scheduled installation completion of the P-3 and S-3 aircraft is FY00.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment	877	16.7																			877	16.7
Installation Equipment N/R		1.6																				1.6
Engineering Change Orders		0.2																				0.2
Data																						
Training Equipment																						
Support Equipment		1.0																				1.0
ILS																						
Other Support		1.9		0.3																		2.2
Interim Contractor Support																						
Installation Cost																						
Total Procurement		21.4		0.3																		21.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/ARC-210 Electronic Protection (EP) Combination Radio (OSIP 04-94)

MODELS OF SYSTEMS AFFECTED: AH-1W, AV-8B, C-2, CH-46E, C/MH-53D/E, EA-6B, KC-130F/R/T, F/A-18C/D, UH-1N, C-130

TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for EP interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF AM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-the-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS. Engineering Change Proposal (ECP) 12 incorporated embedded Demand Assigned Multiple Access (DAMA) Satellite Communications (SATCOM), embedded COMSEC, embedded Variable Message Format (VMF), Link 4A, and is compatible with the memory loader verifier. ORD # 333-06-93 dated 4/20/93 validated this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-210 Common OSIP provides B-kits and common logistics requirements to multiple aircraft. Individual platform OSIPs include non-recurring engineering, integration, A-kit manufacturing and unique aircraft logistic requirements. Full rate Production Decision was approved in May 1994. Corresponding platform OSIP numbers; C-2A OSIP 24-94; AH-1W OSIP 3-93; AV-8B OSIP 23-93; CH-46E OSIP 9-92; F/A-18C/D OSIP 39-92; K/C-130F/R/T OSIP 2-92; UH-1N OSIP 15-92; CH/MH-53D/E OSIP 11-92.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits															5	0.1	10	0.2	131	1.6	146	1.8
Installation Kits N/R													2.6	7.7		1.4						11.7
Installation Equipment	1,463	88.4	345	17.8	331	18.1	249	14.9	186	11.5	190	11.8	132	7.5	127	6.9	133	7.8	293	22.9	3,449	207.6
Installation Equipment N/R		1.3		0.5		1.1		1.2		0.9		0.1		0.1		0.1		0.1		0.1		5.5
Engineering Change Orders		1.7		6.3																		8.0
Data		1.8		0.8		0.7		0.7		0.7		0.2		0.1		0.3		0.3		0.3		5.7
Training Equipment	20	1.5	2	0.1	14	1.0		0.1		0.1		0.1		0.1		*		*		*	36	3.0
Support Equipment		8.1		0.4		0.4		0.4		0.2		0.1		0.1		0.1		0.1		0.1		10.1
ILS		4.4		1.1		1.2		1.1		1.0		0.6		0.7		0.7		0.7		0.7		12.2
Other Support		9.2		4.0		3.2		2.8		2.9		2.3		2.1		2.0		1.9		2.5		32.9
Interim Contractor Support																						
Installation Cost																	5	0.2	141	5.6	146	5.8
Total Procurement		116.2		31.1		25.7		21.1		17.2		15.3		13.3		17.9		12.7		34.0		304.4

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. FY 04 and FY 05 - Common Avionics will fund the A-kit.

Exhibit P-3aMODELS OF SYSTEMS AFFECTED: F/A-18 MODIFICATION TITLE: AN/ARC-210 Radio (OSIP 04-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: _____

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: _____

DELIVERY DATE: FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: _____

(\$ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY () kits																						
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 (5) kits																	5	0.2			5	0.2
FY 2005 (10) kits																			10	0.4	10	0.4
To Complete (131) kits																			131	5.2	131	5.2
TOTAL																	5	0.2	141	5.6	146	5.8

Installation Schedule

	FY 1997 & Prior	FY 1998		FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																							
Out																							

	FY 2004		FY 2005				To Complete	TOTAL
	1	2	1	2	3	4		
In			1	2	1	1	141	146
Out			1	2	1	1	141	146

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Crash Survivable Flight Incident Recorders (CSFIR) (OSIP 43-94)MODELS OF SYSTEMS AFFECTED: AV-8B, F/A-18, VH-3D/60N, C/T-130, C-2, C-12, T-39, U/VP-3, UH-3TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

Chief of Naval Operations letter, Ser N8/5U640779 of 2 May 1995, directed the CSFIR implementation policy on Naval Aircraft. This modification will provide procurement and integrated logistics support of Navy common CSFIR. The CSFIR will be a crash hardened recorder of selective aircraft systems and position parameters to be used in support of aircraft mishap and incident investigations. ORD # Ser N880G2/6U66380 and CNO Memo Ser N8/5u640779 dated 2 May 95 validate this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Commercial off-the-shelf and non-developmental systems will be procured to the maximum extent feasible via open competition. Contract awarded in Fiscal Year 1998 for the F/A-18 val/ver kits with deliveries scheduled for March Fiscal Year 2000.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	153	11.2			8	0.2	60	1.4	88	2.1	89	2.1	45	1.1	3	0.4					446	18.4
Installation Kits N/R	7	14.9	5	4.6		0.7		0.5					1	1.3		*					13	22.0
Installation Equipment	165	4.4	5	0.1	8	0.2	60	1.3	88	2.0	89	2.0	46	1.0	3	0.1					464	11.1
Installation Equipment N/R		0.7		1.4		0.9								0.2								3.2
Engineering Change Orders																						
Data		0.7		0.3		0.2		0.1						0.1		0.3						1.5
Training Equipment	2	0.1				*		0.2		*		*				*		*			2	0.4
Support Equipment		0.5		0.4		1.1		0.6		0.1				0.1		0.1						2.9
ILS		0.1		0.5		0.4		0.7		0.5		0.4		0.6		0.1		0.1				3.3
Other Support		1.9		1.8		2.1		2.2		1.9		1.5		1.5		0.9		1.1		0.6		15.4
Interim Contractor Support																						
Installation Cost	30	4.1	121	2.6			10	0.1	60	0.5	88	0.8	89	0.8	46	0.4	2	*			446	9.4
Total Procurement		38.5		11.6		5.8		7.1		7.1		6.8		6.6		2.2		1.2		0.6		87.5

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

F/A-18, VH-3D/60N, C/T-130, C-2, C-12, T-39, U/VP-3, UH-3

MODIFICATION TITLE: Crash Survivable Flight Incident Recorders (CSFIR) (OSIP 43-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor or USN Field Modification Team

ADMINISTRATIVE LEADTIME:

2Months

PRODUCTION LEADTIME:

12Months

CONTRACT DATES:

FY 1998:

FY 1999: Apr-99

FY 2000: Dec-99

FY 2001: Dec-00

DELIVERY DATE:

FY 1998:

FY 1999: Apr-00

FY 2000: Dec-00

FY 2001: Dec-01

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (153) kits	30	4.1	121	2.6			2	0.1													153	6.7
FY 1999 (8) kits							8	0.1													8	0.1
FY 2000 (60) kits									60	0.5											60	0.5
FY 2001 (88) kits											88	0.8									88	0.8
FY 2002 (89) kits													89	0.8							89	0.8
FY 2003 (45) kits															45	0.4					45	0.4
FY 2004 (3) kits															1	*	2	*			3	0.0
FY 2005 () kits																						
To Complete () kits																						
TOTAL	30	4.1	121	2.6			10	0.1	60	0.5	88	0.8	89	0.8	46	0.4	2	0.0			446	9.4

*Prior Yrs - 2 kits AV-8B VAL /VER NOT INSTALLED

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	30	30	30	30	31						4	3	3	15	15	15	15	22	22	22	22	22	22	22	23
Out	30	30	30	30	31						4	3	3	15	15	15	15	22	22	22	22	22	22	22	23

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	22	23		1	1	1				446
Out	22	23		1	1	1				446

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Embedded Global Positioning System / Inertial Navigation System (EGI) (OSIP 38-95)MODELS OF SYSTEMS AFFECTED: AH-1W, EA-6B, F/A-18A/B/C/D, F-14A/BTYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

EGI is a Tri-Service program. EGI is a small, reliable, light weight unit which contains full Precise Position Service GPS on a single standard electronic module, plus a state-of-the-art Ring Laser Gyro inertial navigation system. A single EGI unit replaces both on inertial system such as CAINS and a GPS receiver such as the 3A or MAGR, reducing weight, volume and power consumption. EGI shall provide three navigation solutions: GPS only navigation solution, inertial navigation solution, and a blended GPS / INS navigation solution. the blended solution shall not degrade the GPS only solution, nor shall the EGI performance be degraded below the inertial only performance. ORD # 401-88-95 dated 25 May 95 validates this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

EGI is a non-developmental item. Milestone III was approved in March 1994.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment	446	32.2	66	4.4	77	4.8	38	1.5	40	1.6	13		5				596	11.9	68	0.7	1,349	57.0
Installation Equipment N/R		0.2		0.3		0.7				0.3		0.3										1.8
Engineering Change Orders						2.3		1.0		0.6					11.4		6.3					21.6
Data		0.6		0.2		0.2		0.1		0.1		0.1										1.3
Training Equipment	3	0.2	1	0.1																	4	0.2
Support Equipment																						
ILS		0.9		0.8		1.0		0.7		0.5		0.2		0.1		0.4		0.6				5.1
Other Support		3.2		4.6		3.1		1.5		1.3		0.9		0.7		2.0		4.6		2.3		24.1
Interim Contractor Support																						
Installation Cost																						
Total Procurement		37.2		10.3		12.1		4.7		4.3		1.5		0.8		13.8		23.4		3.0		111.1

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. FY 98 through FY 01 include EA-6B quantity requirements. Kits were previously procured as F/A-18 assets. FY 02 & FY 03 are F/A-18 previously purchased assets only to be used on EA-6Bs.

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: AN/ARC-182 Reuse Modification Program (OSIP 40-95)MODELS OF SYSTEMS AFFECTED: P-3C, S-3B, SH-2GTYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

The AN/ARC-182 Modification Program will utilize previously procured AN/ARC-182 systems which will become available as the AN/ARC-210 system is retrofitted into Navy aircraft. The replaced AN/ARC-182 will be upgraded to meet the configuration needs of current AN/ARC-182 users vice procurement of a new system. The AN/ARC-182 modification will include receiver-transmitter and remote control units. Mounts, filters, switching units, and antennas will be procured by the platform OSIP to complete the aircraft AN/ARC-182 configuration requirements. ORD # W0661-CC dated 13 June 78, validates this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

AN/ARC-182 is in production. Modified systems will be provided GFE to user platforms to meet aircraft installation requirements.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment	83	0.4	16	*			10	*	20	0.1	33	0.1	34	0.1	21	0.1	12	*	9	*	238	0.8
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1																				0.1
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		0.6		0.3		0.3		0.1		0.1		0.1		0.1		*		*				1.7
Interim Contractor Support																						
Installation Cost																						
Total Procurement		1.1		0.4		0.3		0.2		0.2		0.2		0.1		0.1		0.1		*		2.6

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Ground Proximity Warning System (GPWS CAT I) (OSIP 14-97)MODELS OF SYSTEMS AFFECTED: KC-130T/F/R, VP-3, C-2A, S-3, UP-3, EA-6B, T-45TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

The Ground Proximity Warning System (GPWS) is a low-cost, highly reliable stand-alone commercial set built to provide reliable integration of on-board sensor data and provides an aural warning for excessive descent rate, terrain closure rate, inadvertent descent below glideslope and descent below minimum. Commercial GPWS implementation has shown a demonstrated dramatic reduction in controlled flight into terrain incidents. ECP-130-108 increases system safety by eliminating known deficiencies and applies to military application during normal and low level mission requirements. ORD # 140-05-85 dated 28 Jan 87, revalidated ORD Ltr. 96135 dated 23 Sep 96 validates this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

GPWS CAT-I OPEVAL (P-3C) was successfully completed October 1993. USAF retrofitting all C-130 T/M/S with same unit as part of Autopilot Upgrade Program. USAF OPEVAL in C-130.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	4	0.1	29	0.3	41	0.5	33	0.5	32	0.6	57	1.1	26	0.4	53	0.6	92	0.7	189	1.5	556	6.3
Installation Kits N/R		0.9		0.3		2.2		2.9		1.7		1.7		4.8		3.7		0.7				18.8
Installation Equipment	4	0.2	29	1.5	41	2.0	33	2.0	32	1.4	57	2.7	26	1.1	53	2.4	92	4.2	189	11.1	556	28.6
Installation Equipment N/R																						
Engineering Change Orders																						
Data		*		0.1		*		0.4				0.1		0.3								0.9
Training Equipment				0.3				0.8		0.1				0.2		0.8		0.8		0.2		3.1
Support Equipment																						
ILS				0.1		0.1		0.5		0.3		0.4		0.7		1.2		0.9		0.5		4.7
Other Support		0.6		0.5		2.1		3.9		3.8		3.1		6.5		4.1		2.8		1.9		29.2
Interim Contractor Support																						
Installation Cost			4	0.2	32	0.7	41	1.0	33	0.9	32	1.2	58	2.2	25	1.0	63	1.9	271	3.9	559	13.1
Total Procurement		1.9		3.1		7.6		12.1		8.9		10.2		16.2		13.8		12.0		19.1		104.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K
3. Installation qty differ from Install kits/equipment due to installation of OFT trainers listed in training material.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: KC-130T/F/R, VP-3, C-2A, S-3, UP-3, EA-6B, T-45

MODIFICATION TITLE: Ground Proximity Warning System Category I (GPWS CAT I) (OSIP 14-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor or USN Field Modification Team

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 11 Months

CONTRACT DATES: FY 1998: FY 1999: Dec-98

FY 2000: Dec-99

FY 2001: Dec-00

DELIVERY DATE: FY 1998: FY 1999: Dec-99

FY 2000: Dec-00

FY 2001: Dec-01

(\$ in Millions)																						
Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (36) kits			4	0.2	32	0.7															36	0.9
FY 1999 (41) kits							41	1.0													41	1.0
FY 2000 (33) kits									33	0.9											33	0.9
FY 2001 (32) kits											32	1.2									32	1.2
FY 2002 (57) kits													57	2.2							57	2.2
FY 2003 (26) kits													1	*	25	1.0					26	1.0
FY 2004 (53) kits																	53	1.4			53	1.4
FY 2005 (92) kits																	10	0.5	82	1.1	92	1.5
To Complete (189) kits																			189	2.9	189	2.9
TOTAL			4	0.2	32	0.7	41	1.0	33	0.9	32	1.2	58	2.2	25	1.0	63	1.9	271	3.9	559	13.1

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In				2	2	2	10	10	10	10	10	10	11	8	9	8	8	8	8	8	8	15	14	15	14
Out				2	2	2	10	10	10	10	10	10	11	8	9	8	8	8	8	8	8	15	14	15	14

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	7	6	6	6	16	16	16	15	271	559
Out	7	6	6	6	16	16	16	15	271	559

Exhibit P-3a

Individual Modification

MODIFICATION TITLE:

Ground Proximity Warning System (GPWS CAT III) (OSIP 17-98)

MODELS OF SYSTEMS AFFECTED:

C/MH-53, H-46, H-60, UH-3

TYPE MODIFICATION:

Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

The Ground Proximity Warning System (GPWS), is a low-cost, highly reliable stand-alone commercial set built to provide reliable integration of on-board sensor data and provides an aural warning for excessive rate of descent, terrain closure rate, inadvertent descent below ILS glidescope and descent below minimum. Commercial GPWS implementation has demonstrated dramatic reduction in controlled flight into terrain (CFIT) accidents. NADEP CP ECP H53-004 and H46-75 will assist pilots in preventing collisions with the ground or water. ORD # 140-05-85 dated 28 Jan 87, revalidated Ser N880G2/7u660840 dated 21 May 97, validates this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

GPWS CAT III completed Milestone II in July 1993. DT was fully successful in May 1996. OPEVAL was successfully completed in August 1996. Milestone III was completed in May 1997.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits			28	0.3	76	0.9	92	1.1	86	1.0	94	1.1	68	0.8	41	0.5					485	5.7
Installation Kits N/R				1.1		0.2								0.8		0.1						2.2
Installation Equipment			** 29	1.9	76	3.5	92	4.3	86	4.1	94	4.6	68	3.4	41	2.1					486	23.9
Installation Equipment N/R				1.0		2.3		2.5		2.3												8.1
Engineering Change Orders																						
Data				0.5		0.5		0.1						0.3								1.4
Training Equipment				0.1		0.5		0.6		0.1		0.1				0.2						1.7
Support Equipment																						
ILS				0.2		0.3		0.4		0.2		0.2		0.1		0.4		0.1				1.7
Other Support				3.9		4.0		1.0		0.5		0.5		0.6		1.1		0.3				11.8
Interim Contractor Support																						
Installation Cost					28	0.5	76	1.2	92	1.5	86	1.5	94	1.7	68	1.3	41	0.8			485	8.5
Total Procurement				8.9		12.6		11.1		9.8		8.0		7.8		5.6		1.2				64.9

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

3. Two Asterisks indicate that one additional B-Kit was procured for software integration laboratory use in FY98.

CLASSIFICATION:

UNCLASSIFIED

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C/MH-53, H-46, H-60, UH-3

MODIFICATION TITLE: Ground Proximity Warning System Category III (GPWS CAT III) (OSIP 17-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:	Contractor or USN Depot Field Modification Team
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ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES:	FY 1998:	FY 1999:	Dec-98	FY 2000:	Dec-99	FY 2001:	Dec-00
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DELIVERY DATE:	FY 1998:	FY 1999:	Dec-99	FY 2000:	Dec-00	FY 2001:	Dec-01
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(\$ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (28) kits					28	0.5															28	0.5
FY 1999 (76) kits							76	1.2													76	1.2
FY 2000 (92) kits									92	1.5											92	1.5
FY 2001 (86) kits											86	1.5									86	1.5
FY 2002 (94) kits													94	1.7							94	1.7
FY 2003 (68) kits															68	1.3					68	1.3
FY 2004 (41) kits																	41	0.8			41	0.8
FY 2005 () kits																						
To Complete () kits																						
TOTAL					28	0.5	76	1.2	92	1.5	86	1.5	94	1.7	68	1.3	41	0.8			485	8.4

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								14	14	19	19	19	19	23	23	23	23	21	21	22	22	23	23	24	24
Out								14	14	19	19	19	19	23	23	23	23	21	21	22	22	23	23	24	24

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	17	17	17	17	10	10	10	11		485
Out	17	17	17	17	10	10	10	11		485

Exhibit P-3a		Individual Modification																				
MODIFICATION TITLE: <u>AWW-13 PM Video Demodulator (OSIP 22-98)</u>																						
MODELS OF SYSTEMS AFFECTED: <u>F/A-18, P-3C, S-3B</u>		TYPE MODIFICATION: <u>Common Avionics Modification</u>																				
<p>DESCRIPTION/JUSTIFICATION: The AWW-13 data link pod is used by the USN to provide Man-In-The-Loop weapon control for Walleye, SLAM, SLAM ER and JSOW Unitary precision guided munitions (PGM) weapons. The AWW-13 pod requires an engineering change in order to correct a deficiency identified during SLAM ER E&MD. The AWW-13 is compatible and deployed by F/A-18, P-3C, and will soon be deployed on the S-3B. ECP 9700007 enables this modification and ORD 383-88-94 validates this modification.</p> <p>DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AWW-13 program is post-milestone III and is an ACAT IV program. Two design iterations, flight tests, and qualification are complete and the production configuration is identified and ready for the upgrade.</p>																						
FINANCIAL PLAN: (TOA, \$ in Millions)																						
	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment			200	2.1																200	2.1	
Installation Equipment N/R				0.2																	0.2	
Engineering Change Orders																						
Data				0.1																		0.1
Training Equipment																						
Support Equipment																						
ILS																						
Other Support				0.1																		0.1
Interim Contractor Support																						
Installation Cost																						
Total Procurement				2.4																200	2.4	

Notes:

- Totals may not add due to rounding
- Asterisk indicates amount less than \$50K

Exhibit P-3a

Individual Modification

MODIFICATION TITLE: Tactical Collision Avoidance System (TCAS) (OSIP 25-98)MODELS OF SYSTEMS AFFECTED: C-2, C-130T, VP-3, KC-130, UP-3, UH-3TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

CNO memorandum of 12 June 1997 directed TCAS implementation policy on Naval Aircraft. This modification will provide procurement and logistics support of a Navy common TCAS. The TCAS will provide a display of situation awareness to aid in the prevention of midair mishaps. An ECP was approved in FY 99 to incorporate this change.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

TCAS Off-The-Shelf processor has been selected. The ECP NRE effort for C-2, VP-3, and C-130T/KC-130 was accelerated and began in FY 98. Milestone III is planned for fourth quarter FY 00.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits					18	1.2	44	2.0	18	0.8	19	0.8							45	2.1	144	6.8
Installation Kits N/R				0.4		2.4		1.1		1.3		0.1								1.6		6.8
Installation Equipment			18	2.3			44	6.0	18	2.7	19	3.0							45	6.7	144	20.7
Installation Equipment N/R				0.4		2.0																2.4
Engineering Change Orders								0.5		0.7												1.2
Data						0.1		1.1		0.3		0.4		0.2		*						2.1
Training Equipment						0.1	3	0.8	5	0.6	2	0.8		0.3		*		*			10	2.6
Support Equipment								0.1		0.2		0.2		0.2								0.6
ILS						0.1		0.7		0.7		0.4		0.4		0.1		0.1		0.1		2.4
Other Support				0.6		2.4		2.7		1.9		1.0		0.9		0.8		0.2		0.4		10.9
Interim Contractor Support																						
Installation Cost					1	*	16	0.7	45	2.1	18	0.8	19	0.8					45	2.1	144	6.5
Total Procurement				3.6		8.3		15.6		11.1		7.4		2.7		0.9		0.3		12.8		62.8

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than \$50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2, C-130T, VP-3, KC-130, UP-3, UH-3

MODIFICATION TITLE: Tactical Collision Avoidance System (TCAS) (OSIP 25-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor or USN Field Modification Team

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: FY 1999: FY 2000: Dec-99 FY 2001: Dec-00

DELIVERY DATE: FY 1998: FY 1999: FY 2000: Dec-00 FY 2001: Dec-01

(\$ in Millions)																						
Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 1998 & PY (18) kits					1	*	16	0.7	1	*											18	0.8
FY 1999 () kits																						
FY 2000 (44) kits									44	2.0											44	2.0
FY 2001 (18) kits											18	0.8									18	0.8
FY 2002 (19) kits													19	0.8							19	0.8
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 (45) kits																			45	2.1	45	2.1
To Complete () kits																						
TOTAL					1	0.0	16	0.7	45	2.1	18	0.8	19	0.8					45	2.1	144	6.5

Note: Asterick represents a value under \$50K.

Installation Schedule

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
In									1	1	1	1	13	12	11	11	11	6	4	4	4	4	4	5	4	6
Out									1	1	1	1	13	12	11	11	11	6	4	4	4	4	4	5	4	6

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									45	144
Out									45	144

